

TRINITY PRESBYTERIAN CHURCH

TOWN OF HARRISON WESTCHESTER COUNTY, NEW YORK

DRAFT ENVIRONMENTAL IMPACT STATEMENT APPENDICES

Prepared For Submission To:

TOWN OF HARRISON PLANNING BOARD TOWN OF HARRISON, NEW YORK

SECTION X • APPENDICES

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 - ENVIRONMENTAL ASSESSMENT FORM
 - LEAD AGENCY NOTICE OF INTENT
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ENVIRONMENTAL ASSESSMENT FORM

617.20 Appendix B Short Environmental Assessment Form

Instructions for Completing

Part 1 - Project Information. The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

Part 1 - Project and Sponsor Information					 .
Name of Action or Project:					
Trinity Presbyterian Church					
Project Location (describe, and attach a location map):					
526-530 Anderson Hill Road, Harrison, New York. Approximately 375 feet east of the in	tersectio	on of Anderson Hill Road	and Purc	chase	Street.
Brief Description of Proposed Action:					***************************************
The Applicant intends to use the premises for its church. The existing 6,800 square foot house will be renovated and used as part of the church facility. It will be used religious fellowship, office and support space. A 19,200 square foot addition to the house will be used for sanctuary, religious education and support space. Associated work will include access drives and parking, landscaped areas, and stormwater management measures.					
Name of Applicant or Sponsor:	Telep	none: (914) 967-6247			
Trinity Presbyterian Church					
	E-Mai	l: craigchapman@trinity	church.c	nurch.cc	
Address:					
15 Elm Place					
City/PO:		State:	Zip C	ode:	
Rye NY 105					
1. Does the proposed action only involve the legislative adoption of a plan, le	ocal law	, ordinance,	N	10	YES
administrative rule, or regulation?	4l	:	14 F	√	
If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.					
2. Does the proposed action require a permit, approval or funding from any	other go	overnmental Agency?	N	10	YES
If Yes, list agency(s) name and permit or approval: Town of Harrison Planning Board: Site Plan & Spcl Exception Town of Harrison Town Board: Special Exception Approval Westchester County Department: Building Permit Westchester County Department of Health: Water & Sewer Westchester County DPW: County Road Permit					√
3.a. Total acreage of the site of the proposed action?	6.4	6 acres	***************************************		
b. Total acreage to be physically disturbed? 4.8 acres					
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 6.46 acres					
4. Check all land year that account on adjaining and account.					
4. Check all land uses that occur on, adjoining and near the proposed action. ☐ Urban ☐ Rural (non-agriculture) ☐ Industrial ☐ Commercial ☑ Residential (suburban)					
		,	•	1	
☐ Forest ☐ Agriculture ☐ Aquatic ☐ Other (specify): Institutional; Private Recreation ☐ Parkland					

RESET

5. Is the proposed action, NO	YES	N/A
a. A permitted use under the zoning regulations? Special Exception Use		
b. Consistent with the adopted comprehensive plan?	V	
6. Is the proposed action consistent with the predominant character of the existing built or natural	NO	YES
landscape?		V
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area? If Yes, identify: Name: Westchester County Airport 60-Ldn Noise Contour, Reason: Exceptional or unique character,	NO	YES
Agency: Westchester County, Date: 1-31-90		$ \mathbf{V} $
8. a. Will the proposed action result in a substantial increase in traffic above present levels?	NO	YES
b. Are public transportation service(s) available at or near the site of the proposed action?		V
c. Are any pedestrian accommodations or bicycle routes available on or near site of the proposed action?		✓
9. Does the proposed action meet or exceed the state energy code requirements?	NO	YES
If the proposed action will exceed requirements, describe design features and technologies:		V
10. Will the proposed action connect to an existing public/private water supply?	NO	YES
If No, describe method for providing potable water:		
The state of the s		
11. Will the proposed action connect to existing wastewater utilities?	NO	YES
If No, describe method for providing wastewater treatment:		
12. a. Does the site contain a structure that is listed on either the State or National Register of Historic	NO	YES
Places?	$\overline{\mathbf{V}}$	
b. Is the proposed action located in an archeological sensitive area?	V	
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?	NO 🗸	YES
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody?		
If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres:		A-E
14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that a Shoreline Forest Agricultural/grasslands Early mid-successional Wetland Urban Suburban	apply:	
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed	NO	YES
by the State or Federal government as threatened or endangered?	7	
16. Is the project site located in the 100 year flood plain?	NO	YES
17 Will the proposed action greate storm water discharge either from the first control of the	Ĭ <u>√</u>	L VEC
17. Will the proposed action create storm water discharge, either from point or non-point sources? If Yes,	NO	YES
a. Will storm water discharges flow to adjacent properties?		✔
b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)? If Yes, briefly describe:		

	No, or small		derate large
Part 2 - Impact Assessment. The Lead Agency is responsible for the completion of Part 2. Answer questions in Part 2 using the information contained in Part 1 and other materials submitted by the project otherwise available to the reviewer. When answering the questions the reviewer should be guided by the responses been reasonable considering the scale and context of the proposed action?"	t sponsor	or	
Signature:		-	
I AFFIRM THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO KNOWLEDGE Andrew V. Tung, Esq., ASLA, LEED AP Applicant/sponsor name: Divney Tung Schwalbe, LLP Date: 12/02/2013	THE BE	ST O	F MY
		lacksquare	
20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing completed) for hazardous waste? If Yes, describe:	g or _ r	NO	YES
If Yes, describe:		√	
19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility?	1	NO	YES
If Yes, explain purpose and size: Stormwater management basins will temporarily hold stormwater.		✓	
18. Does the proposed action include construction or other activities that result in the impoundment of water or other liquids (e.g. retention pond, waste lagoon, dam)? If Yes, explain purpose and size:	1	NO	YES

		No, or small impact may occur	Moderate to large impact may occur
1.	Will the proposed action create a material conflict with an adopted land use plan or zoning regulations?		
2.	Will the proposed action result in a change in the use or intensity of use of land?		
3.	Will the proposed action impair the character or quality of the existing community?		
4.	Will the proposed action have an impact on the environmental characteristics that caused the establishment of a Critical Environmental Area (CEA)?		
5.	Will the proposed action result in an adverse change in the existing level of traffic or affect existing infrastructure for mass transit, biking or walkway?		
6.	Will the proposed action cause an increase in the use of energy and it fails to incorporate reasonably available energy conservation or renewable energy opportunities?		
7.	Will the proposed action impact existing: a. public / private water supplies?		
	b. public / private wastewater treatment utilities?		
8.	Will the proposed action impair the character or quality of important historic, archaeological, architectural or aesthetic resources?		
9.	Will the proposed action result in an adverse change to natural resources (e.g., wetlands, waterbodies, groundwater, air quality, flora and fauna)?		

	No, or small impact may occur	Moderate to large impact may occur
10. Will the proposed action result in an increase in the potential for erosion, flooding or drainage problems?		
11. Will the proposed action create a hazard to environmental resources or human health?		
Part 3 - Determination of significance. The Lead Agency is responsible for the completion of Paquestion in Part 2 that was answered "moderate to large impact may occur", or if there is a need to exelement of the proposed action may or will not result in a significant adverse environmental impact, part 3 should, in sufficient detail, identify the impact, including any measures or design elements that the project sponsor to avoid or reduce impacts. Part 3 should also explain how the lead agency determay or will not be significant. Each potential impact should be assessed considering its setting, probaduration, irreversibility, geographic scope and magnitude. Also consider the potential for short-term, cumulative impacts.	plain why a blease comp have been nined that the bility of occ	a particular plete Part 3. included by he impact curring,

Check this box if you have determined, based on the information and analysis above, and any supporting documentation, that the proposed action may result in one or more potentially large or significant adverse impacts and an environmental impact statement is required. Check this box if you have determined, based on the information and analysis above, and any supporting documentation, that the proposed action will not result in any significant adverse environmental impacts.				
Name of Lead Agency	Date			
Print or Type Name of Responsible Officer in Lead Agency	Title of Responsible Officer			
Signature of Responsible Officer in Lead Agency	Signature of Preparer (if different from Responsible Officer)			

PRINT

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LEAD AGENCY NOTICE OF INTENT

PLANNING BOARD RESOLUTION PB2013/56 DECEMBER 17, 1013

SEQR NOTICE OF INTENT TO SERVE AS LEAD AGENCY FOR THE TRINITY PRESBYTERIAN CHURCH HOUSE OF WORSHIP/BUILDING ADDITION, FOR PROPERTY LOCATED AT 526-530 ANDERSON HILL ROAD, KNOWN & DESIGNATED AS BLOCK 643, LOTS 7, 44, 49

WHEREAS, the applicant, Trinity Presbyterian Church (hereinafter collectively referred to as the "Applicant") has submitted an application for Site Plan approval and Special Exception Use Permit to the Town/Village of Harrison Planning Board for the site located at 526-530 Anderson Hill Road, more specifically known and designated as Block 643, Lots 7, 44, 49; and

WHEREAS, in accordance with the provisions of 6 NYCRR Part 617, the Planning Board of the Town/Village of Harrison intends to serve as Lead Agency for the SEQR Review of this Unlisted Action; and

WHEREAS, it is the intention of the Lead Agency to undertake a Coordinated Review of this action.

NOW THEREFORE BE IT RESOLVED, that the Planning Board of the Town/Village of Harrison hereby declares its intention to serve as Lead Agency for the SEQR Coordinated Review of this action, and directs the Applicant to circulate this notice, along with Part 1 of the Environmental Assessment Form and the Draft Scoping Document, to all involved agencies. Involved agencies shall be given 30 days from the mailing of the Lead Agency Notice to challenge the Planning Board's designation; and

BE IT FINALLY RESOLVED, that this resolution shall have an effective date of December 17, 2013.

On the motion of Planning Board Member Kate Barnwell, seconded by Planning Board Member Raymond A. Kraus, it was adopted by the following vote:

AYES:

Thomas Heaslip, Anthony Spano, Raymond A. Kraus, Marshall

Donat, and Kate Barnwell

NAYS:

None

ABSTAINED:

None

ABSENT:

Nonie Reich, Mark Rinaldi

Thomas Heaslip, Chairman

The resolution was thereupon duly adopted.

FILED THIS

ALEXANDER DAY OF

Acqueline Lear

Town Clerk, Harrison, New York

NOTIFICATION OF PROJECT APPLICATION AND LEAD AGENCY ESTABLISHMENT

(Pursuant to SEQR Regulations, NYCRR 617)

TO:

INVOLVED AGENCIES

DATE:

December 17, 2013

ACTION:

Trinity Presbyterian Church, Applicant

526-530 Anderson Hill Road, Harrison, NY Town of Harrison, Block 643, Lots 7, 44, 49

Please be advised that an application for a Site Plan approval and Special Exception Use permit for the Trinity Presbyterian Church involving the renovation of an existing 6,800 square foot house to be used as part of the church facility and a 19,200 square foot addition to the house to be uses as a sanctuary, religious education area and support space has been submitted to the Planning Board of the Town of Harrison.

The Planning Board of the Town of Harrison intends to assume the role of Lead Agency for this project. The applicant has agreed to prepare an Environmental Impact Statement for this project. A copy of the draft scoping Document is attached.

Enclosed is a copy of the Environmental Assessment Form and the Application. If no written objections are received within thirty (30) calendar days of the mailing of this notice, the Planning Board of the Town of Harrison will assume the role of Lead Agency with relation to the proposed action.

The office of the above named agency is located at:

Planning Board of the Town of Harrison Thomas Heaslip, Chairman Municipal Building 1 Heineman Place Harrison, New York 10528

For information concerning this matter, contact Rosemarie Cusumano, Planning Board Secretary, at (914) 670-3077.

AGENCY NOTIFICATION LISTING

Town/Village Board Town/Village of Harrison 1 Heineman Place Harrison, New York 10528

Westchester County Department of Planning Westchester County Planning Board 148 Martine Avenue, Room 432 White Plains, New York 10601-4704

Westchester County Department of Health 25 Moore Avenue Mount Kisco, New York 10549

Zoning Board of Appeals Town/Village of Harrison 1 Heineman Place Harrison, New York 10528

Architectural Review Board Town/Village of Harrison 1 Heineman Place Harrison, New York 10528

Westchester County Department of Public Works 148 Martine Avenue White Plains, New York 10601

DEIS SCOPING DOCUMENT

SCOPING DOCUMENT

For Preparation of a Draft Environmental Impact Statement for

TRINITY PRESBYTERIAN CHURCH

526-530 Anderson Hill Road Town of Harrison, Westchester County, New York

SEQR Classification of Action: Unlisted

Lead Agency: Town of Harrison Planning Board

Lead Agency Contact: Town of Harrison Planning Board

c/o Rosemarie Cusumano, Secretary

1 Heineman Place

Harrison, New York 10528

Applicant: Trinity Presbyterian Church

15 Elm Place

Rye, New York 10580

Scoping Session: January 28, 2014.

Date Scope Adopted by Lead Agency: February 25, 2014

INTRODUCTION

This Scoping Document identifies the issues to be addressed in the Draft Environmental Impact Statement ("DEIS") for the Trinity Presbyterian Church Site Plan, Special Exception Use, height variance and Architectural Review Board Approvals (the "Proposed Project"). The DEIS will be prepared in accordance with 6 NYCRR Part 617, referred to herein as the State Environmental Quality Review Act ("SEQRA").

The primary goal of the SEQRA scoping process is to focus the Draft Environmental Impact Statement ("DEIS") on potentially adverse impacts and eliminate from consideration those impacts that are inapplicable or non-significant. The scoping process is also utilized to specify, where appropriate, the content and level of analysis of each identified impact. To allow for public input, the Town of Harrison has made this Draft Scoping Document available to the public for review and comment. A description of the Proposed Project and general guidelines for the preparation of the DEIS are presented in the next sections and are followed by the DEIS scope.

DESCRIPTION OF PROPOSED PROJECT

The proposed Trinity Presbyterian Church ("Trinity" or "Applicant") is to be located on a 6.46 acre property situated in the Purchase section of the Town of Harrison (the "Property"). The Property is located on the southerly side of Anderson Hill Road, approximately 375 feet east of the Anderson Hill Road and Purchase Street intersection, and directly abuts the Purchase Elementary School

playing fields to the rear (south). The Property has an address of 526-530 Anderson Hill, and is comprised of three (3) tax lots, known and designated on the Town of Harrison Tax Maps as Block 643, Lots 7, 44A & 44B.

The Property is improved with an existing 6,800 square foot, 2 ½ story residence, a patio behind the house, a swimming pool, and an entrance driveway from Anderson Hill Road. The area surrounding the Property is characterized by a mix of residential, community and business uses, including one-family residences (both on individual lots and in gated communities), the Purchase Elementary School, the Purchase Post Office, Manhattanville College, the Purchase Fire Department, several restaurants, PepsiCo's World Headquarters, and the State University of New York (SUNY) at Purchase. The Property is also in close driving proximity to the Hutchinson River Parkway/Merritt Parkway, Interstate 684, and Interstate 287.

Trinity proposes to convert the existing 6,800 square foot residence on the Property to accommodate fellowship space, administrative offices and support space; and to construct a 19,200 square foot addition connected to the former house in which a sanctuary and religious instruction rooms will be located. The addition will have an architectural style and façade consistent with the existing Tudor residence. The resulting church will consist of a building of 26,000 square feet on its Property for use as a place of worship, along with attendant off-street parking, stormwater facilities, and landscape screening. The patio at the rear of the house will be retained, while the existing swimming pool will be removed and a fenced-in play area will be provided at the south side of the addition. The existing west driveway will be widened and a new east driveway will be provided to provide access to Anderson Hill Road.

INTRODUCTORY MATERIAL

The DEIS shall be prepared to comply with the requirements of 6 NYCRR Part 617, State Environmental Quality Review. The introductory material at the beginning of the DEIS shall include:

- Cover Sheet stating:
 - A. Type of document (Draft Environmental Impact Statement).
 - B. Date submitted and any revision dates.
 - C. Name and location of theaction.
 - D. Lead Agency for the project.
 - E. Name, address and telephone number of the following person at the Lead Agency to be contacted for further information:

Town of Harrison Planning Board

c/o Rosemarie Cusumano, Secretary

1 Heineman Place

Harrison, New York 10528

(914) 670-3077

- F. Name and address of the project sponsor, and name and telephone number of a contact person representing the sponsor.
- G. Name and address of the primary preparer(s) of the DEIS, and name and telephone number of a contact person representing the preparer.
- H. Date of acceptance of the DEIS (to be inserted later).
- I. Date by which comments are to be submitted to the Lead Agency (to be inserted later).

- List of Consultants: Names, addresses and project responsibilities of all consultants who have contributed to the preparation of the DEIS.
- Table of Contents including:
 - A. Chapter and section headings with page numbers.
 - B. List of figures.
 - C. List of tables.
 - D. List of appendices.
 - E. List of DEIS plans (large-scale drawings).
 - F. List of additional DEIS volumes, if applicable.

DRAFT ENVIRONMENTAL IMPACT STATEMENT

I. DEIS EXECUTIVE SUMMARY

The DEIS shall include an executive summary that will provide the reader with a clear and cogent understanding of the information found elsewhere in the main body of the document. The summary shall include:

- A. Brief description of Proposed Project including background leading to the development of this project, anticipated build year and expected construction sequencing of the project components.
- B. Description of required permits and approvals, including list of Involved Agencies.
- C. List of Interested Agencies and Parties.
- D. Brief listing of anticipated significant impacts and proposed mitigation measures for each significant impact issue discussed in the DEIS.
- E. Brief description of reasonable alternatives to the Proposed Project or to specific elements of the action.

II. DESCRIPTION OF PROPOSED PROJECT

A. Project History

- 1. Brief description of the history of the project, including a description of the 2003 application made by Trinity for a similar program on a portion of the site currently proposed for the Proposed Project, and Trinity's related actions following the withdrawal of that application, including the recent purchase of the adjacent parcel.
- 2. Discussion of Trinity's current presence in the Town of Harrison and other Westchester municipalities.

B. Project Purpose, Need & Benefits

- 1. Purpose, need and benefits of the Proposed Project discussed both in terms of the application and the community.
- 2. Objectives of the Applicant.

C. Project Location

- 1. Description of the regional and area location, abutting streets, utilities and land uses and existing zoning categories.
- 2. Description of the tax parcels making up the project site and abutting uses.

D. Project Description

1. Brief description of the existing site and building improvements.

- 2. Description of proposed church facility, including
 - a. Program listing of improvements and facilities proposed to be added and/or renovated, including interior and exterior components.
 - b. Site Plan –description of full-sized site plans (1"=40' minimum) illustrating the following:
 - (1) Site access and circulation
 - (a) Vehicular
 - (b) Pedestrian
 - (2) Site design and grading, including erosion control
 - (3) Parking and loading
 - (a) 130 paved spaces, and stabilized adjoining lawn areas to accommodate 25 additional cars as needed
 - (4) Landscaping and open space
 - (5) Stormwater management
 - (6) Utilities
 - (7) Lighting
 - c. Buildings
 - (1) Description of all buildings proposed to be added or renovated, including footprint and approximate square feet, height in stories and feet, design elements, materials, sustainability features
 - (2) Preliminary architectural floor plans, sections and elevations (showing design, materials, and colors) for all buildings
 - (3) Description of and need for proposed height variance
 - d. Operations description of anticipated facility utilization and occupancy
 - (1) Worship service
 - (2) Religious instruction
 - (3) Office use
 - (4) Other scheduled activities
 - (5) Special events weddings, funerals, other
 - (6) Site/neighborhood security
- 3. Description of Project Phasing and Construction
 - a. Project Phasing description of proposed phasing, if any
 - Construction description project sequence and anticipated durations, including site preparation and erosion control, demolition, and construction
- E. Permits and Approvals.
 - 1. Involved Agencies provide list and description of required approvals, permits and issuing agencies.
 - 2. Interested Parties provide listing of other interested agencies, authorities, or other parties receiving the DEIS.

III. <u>EXISTING ENVIRONMENTAL CONDITIONS, POTENTIAL IMPACTS, POTENTIAL MITIGATION MEASURES</u>

For each of the different environmental issues listed below, the DEIS shall include a discussion of the existing environmental conditions, the future conditions if the Project is not constructed, potential significant adverse or beneficial impacts related to the Project, and potential mitigation measures for identified significant adverse impacts of the Project.

Unless otherwise specified herein, the "build year" for the discussion of potential impacts related to the proposed Project is assumed to be 2016.

A. <u>LAND USE AND ZONING</u>

- 1. Existing Conditions.
 - a. Identify and discuss existing land use and zoning of the Site, land uses within a quarter-mile of the Site boundaries and the character of the surrounding community.
- 2. Future Conditions Without the Project.
- 3. Potential Impacts.
 - a. Consistency with Westchester County, regional and local land use plans.
 - b. Conformance with the Town Zoning Ordinance.
 - c. Description of required variance(s) from the Zoning Ordinance
- 4. Potential Mitigation Measures.
 - a. Preservation of vegetation and buffer areas to mitigate land disturbances, construction noise and visual impacts.
 - b. Proposed site landscaping and lighting improvements.

B. LAND, WATER AND ECOLOGICAL RESOURCES

- 1. Land Resources.
 - a. Existing Conditions.
 - (i) Subsurface Geology.
 - (a) Composition and thickness of subsurface material.
 - (b) Bedrock formation types, extent of fracturing and faulting.
 - (c) Depth to bedrock.
 - (ii) Soils.
 - (d) Describe soil types and their distribution in accordance with the Natural Resource Conservation Service soils survey for Westchester County.
 - (e) Description of Soil characteristics and properties based on NRCS soils' data including:
 - i. Texture, soil bearing capacity, erodability.
 - ii. Depth to water table, drainage characteristics
 - (f) Location and extent of rock outcrops, areas of shallow depth to bedrock (<2') and/or surficial geological features.
 - (iii) Topography.
 - (g) Description of topography, including a slope analysis which identifies areas with slopes in the following categories per the *Chapter 199: Steep Slope Protection* of the Harrison Town Code:

- iii. 0% to <15%
- iv. $\leq 15\%$ to $\leq 25\%$ (steep slopes)
- v. $\leq 25\%$ to $\leq 35\%$ (very steep slopes)
- vi. ≥35% (excessively steep slopes)
- b. Future Conditions Without the Project.
- c. Potential Impacts.
 - (i) Quantify slope disturbance by category (0% to <15%; \leq 15% to <25%; \leq 25% to <35%; \geq 35%) resulting from Proposed Project, if applicable.
 - (ii) Discuss steep slope impacts as they relate to *Chapter 199: Steep Slope Protection* of the Harrison Town Code, if applicable.
 - (iii) Preliminary clearing and grading plan for all developed areas, including a preliminary estimate of needed cut and fill.
 - (iv) Extent of ripping or blasting, or where engineered slopes would be anticipated.
 - (v) Assess the potential impacts of building construction and site grading with respect to soil erosion and slope stabilization.
- d. Potential Mitigation Measures.
 - (i) The DEIS will describe typical temporary and permanent erosion control measures and will require erosion and sedimentation control plans be developed for the project consistent with NYS and local Stormwater regulations.

2. Water Resources.

- a. Existing Conditions.
 - (i) Location and description of wetlands, water bodies, surface watercourses and groundwater resources, if any, on and in the vicinity of the site, with respect to:
 - (a) Chapter 149: Freshwater Wetlands of the Town of Harrison Code
 - (b) Articles 15 & 24 of the New York State Environmental Conservation Law including but not limited to protected freshwater wetlands.
 - (c) U.S. Army Corps of Engineers jurisdiction.
 - (ii) Describe any floodways and flood hazard boundaries on the Project Site as defined by the Flood Insurance Rate Maps prepared by the Federal Emergency Management Agency (FEMA).
 - (iii) Discussion of the existing stormwater system.
 - (iv) Discussion of drainage patterns, conditions and contributing areas within the projects site's watershed, and their relationship to the subject site.
- b. Future Conditions Without the Project.
- c. Potential Impacts.
 - (i) Any impacts on any surface waters, wetlands or their regulated setbacks as a result of the proposed development.
 - (ii) Describe the stormwater management system proposed, including all proposed drainage facilities and detention areas and how they will comply with the NYSDEC Phase II Stormwater Regulations.
- d. Potential Mitigation Measures.
 - (i) Stormwater management policies based on current New York State Pollutant Discharge Elimination System (SPDES) regulations will be developed to mitigate any impacts associated with runoff.
- 3. Ecological Resources.

- a. Existing Conditions.
 - (i) Identification of endangered, threatened and rare species (U.S. Fish and Wildlife Service and New York State DEC (NYSDEC) Natural Heritage Program), and a description of any unique or locally-rare species occurring on-site.
 - (ii) Vegetative community types will be identified through available mapping and field reconnaissance. Site-wide habitat potentials will be identified relative to terrestrial and aquatic habitats.
 - (iii) Areas where there will be substantial removal of trees will be shown on a map.
- b. Future Conditions Without the Project.
- c. Potential Impacts.
 - (i) A description of potential impacts to plant and animal communities on, or in the vicinity of the Project Site, due to grading and excavation will be provided. Impacts to wildlife as a result of habitat loss and change of habitat types and habitat fragmentation will be discussed.
- d. Potential Mitigation Measures.
 - (i) Proposed landscaping.
 - (ii) Vegetation to be retained and/or preserved.
 - (iii) Mitigation for habitat disturbances.

C. UTILITIES

- 1. Water Service.
 - a. Existing Conditions.
 - (i) Description of public water system, including infrastructure and service within the project area.
 - (ii) Description of existing site water infrastructure and utilization.
 - b. Future Conditions Without the Project.
 - c. Potential Impacts.
 - (i) Estimate of Project water usage and adequacy of water supply/distribution systems.
 - d. Potential Mitigation Measures.
- 2. Sanitary Sewer.
 - a. Existing Conditions.
 - (i) Description of sanitary sewer service to the Project Site.
 - (ii) Description of existing site sanitary sewer infrastructure and utilization.
 - (iii) Identify existing sanitary sewer easement on the Project Site. and discuss any restrictions.
 - b. Future Conditions Without the Project
 - (i) Existing sanitary sewer service to the project site.
 - c. Potential Impacts
 - (i) Estimate of Project wastewater generation and adequacy of collection system.
 - d. Potential Mitigation Measures.
- 3. Stormwater Management.
 - a. Existing Conditions.
 - (i) Describe drainage patterns, conditions and contributing areas within the project site's watershed, and their relationship to the subject site.

- (ii) Describe any stormwater management facilities on-site.
- (iii) Identify and discuss existing rate of stormwater runoff (including peak flows and total runoff based on analysis of 1-, 2-, 10-and 100-year storm events.
- b. Future Conditions Without the Project.
- c. Potential Impacts.
 - (i) Describe post-development stormwater flow volumes for the 1-, 2-, 10and 100-year storm events per methodologies included in the *New York State Stormwater Management Design Manual*.
 - (ii) Discuss potential stormwater quality impacts.
- d. Potential Mitigation Measures.
 - (i) Stormwater runoff quality control measures designed in accordance with the NYS Stormwater Management Design Manual shall be made part of a project specific Stormwater Management Plan.
 - (ii) Development of a Soil Erosion & Sediment Control Plan in accordance with the NYS Guidelines for Urban Erosion and Sediment Control with the intent to minimize the potential for erosion and sedimentation of on-site soil material during construction activities.
 - (iii) Preparation of a Stormwater Pollution Prevention Plan in accordance with the requirements of NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities (GP -0-10-001) This plan will include maintenance guidelines and recommendations for all temporary and permanent stormwater control systems, including the frequency of maintenance and the assignment of responsibility.
- 4. Gas Service.
 - a. Existing Conditions.
 - (i) Identification of gas service provider.
 - (ii) Description of existing site gas utilization.
 - b. Future Conditions Without the Project
 - c. Potential Impacts.
 - (i) Ability of provider to service the Project
 - d. Potential Mitigation Measures.
- 5. Electricity Service.
 - a. Existing Conditions.
 - (i) Identification of electric service provider.
 - (ii) Description of existing site electric utilization.
 - b. Future Conditions Without the Project.
 - c. Potential Impact.
 - (i) Ability of provider to service the Project
 - d. Potential Mitigation Measures.

D. VISUAL RESOURCES

- 1. Existing Conditions.
 - a. Description and photographic documentation of the visual condition of the site and the immediately surrounding area.
- 2. Future Conditions without the Project.
- 3. Potential Impacts.
 - a. Demonstrate the visibility and assess the visual impacts, if any, of the Proposed Project from publicly-accessible vantage points outside the Site

- through the use of architectural elevations, sketches, photographs, and/or photo-renderings.
- b. Steeple height, FAA requirements.
- c. Shadow impacts.
- d. Lighting impacts, building, steeple, parking lots and site
- 4. Potential Mitigation Measures.

E. TRANSPORTATION

- 1. Traffic
 - a. Existing Conditions.
 - (i) Description of the area roadways including pavement width, number of travel lanes, shoulder, capacity, condition, maintenance, parking, posted speed limit, sight distances, ownership road closures for special events, short-cut by-pass traffic from Hutchinson River Parkway, I-287 and I-684and traffic controls of the following intersections in the vicinity of the project:
 - (a) Anderson Hill Road and Purchase Street (NYS Route 120)
 - (b) Anderson Hill Road and Harrows Lane
 - (ii) Description of public transportation services
 - (iii) Accident analysis for the most recent three-year period, as available from Town and/or State agencies, for the studied roadways/intersections in the site vicinity
 - (iv) Perform traffic counts including vehicle classification information at the intersections identified at E.1.(a)(i) for the following time periods
 - (a) Sunday 9:00 AM to 1:00 PM, to coincide with the entering and exiting for Sunday morning religious services and religious instruction, which includes the peak entering hour for entering of 9:15 AM to 10:15 AM and peak exiting hour of 11:30 AM to 12:30 PM; and,
 - (b) Weekday Peak AM hour and Peak PM hour.
 - (v) Perform capacity analyses using the latest edition of the 2010 Highway Capacity Manual. Analysis will be completed for existing conditions at each intersection identified in Item E.1.(a)(i). Level of service (LOS) will be shown for each intersection approach. Include traffic volumes from all other major traffic generators including Pepsico at full occupancy after completion of Project Renew, Purchase Community House (including summer programs), Manhattanville College, SUNY Purchase and corporate parks.
 - (vi) Assessment of existing church operating conditions at the School of the Holy Child site.
 - b. Future Conditions Without the Project.
 - (i) Calculate background traffic volume for the 2016 build year including a general background growth factor and traffic expected to be generated by pending or approved projects.
 - (ii) Perform capacity analysis for the anticipated "No-Build" traffic conditions for the intersections defined above.
 - c. Potential Impacts.
 - (i) Estimate the Project-generated peak-hour traffic, based on information provided by Trinity Presbyterian Church and information contained in

- the latest edition of <u>Trip Generation</u>, prepared by the Institute of Transportation Engineers
- (ii) Prepare the anticipated distribution (arrival/departure) including percentages of Project-generated traffic on area roads.
- (iii) Perform capacity analysis for the anticipated "Build" traffic conditions for the intersections identified in section E.1.(a)(i) above and proposed driveways. Evaluate sight distances at proposed driveways.
- (iv) Describe and estimate future parking conditions.
- (v) Pedestrian and bicycle impacts, including Purchase School students.
- (vi) Driveway sight distance analysis.
- d. Potential Mitigation Measures.
 - (i) Consideration of shared parking with Purchase School.

F. AIR QUALITY AND NOISE

- 1. Air Quality.
 - a. Existing Conditions.
 - b. Future Conditions Without the Project.
 - c. Potential Impacts.
 - (i) Discussion of construction-related air quality issues.
 - d. Potential Mitigation Measures.
- 2. Noise.
 - a. Existing Conditions.
 - (i) Description of existing noise environment and noise generators, including traffic noise.
 - (ii) Discussion of sensitive noise receptors in proximity to the Project Site.
 - b. Future Conditions Without the Project.
 - c. Potential Impacts.
 - (i) Description and evaluation of potential noise generation from construction equipment and traffic.
 - (ii) Evaluate the potential impact of noise generated by non-traffic sources.
 - d. Potential Mitigation Measures.

G. SOCIOECONOMIC AND FISCAL IMPACTS

- 1. Socio Economic.
 - a. Existing Conditions.
 - b. Future Conditions Without the Project.
 - c. Potential Impacts.
 - d. Potential Mitigation Measures.
- 2. Fiscal Impacts.
 - a. Existing Conditions.
 - b. Future Conditions Without the Project.
 - c. Potential Impacts.
 - d. Potential Mitigation Measures.

H. **COMMUNITY SERVICES**

- 1. Police Protection, Fire Protection, and Emergency Medical Services.
 - a. Existing Conditions.

- (i) Describe department (Town of Harrison Police, Purchase Fire District, Harrison Emergency Medical Services District) facilities and personnel, and available inter-municipal services.
- b. Future Conditions Without the Project.
- c. Potential Impacts.
 - (i) Ability of each service provider to handle calls for service.
 - (ii) Response times.
- d. Potential Mitigation Measures.
- 2. Highway/Sanitation
 - a. Existing Conditions.
 - b. Future Conditions Without the Project.
 - c. Potential Impacts.
 - (i) Estimate projected solid waste generation and proposed waste removal and recycling collection.
 - (ii) Describe the need, if any, for additional Highway/Sanitation services or facilities generated by the Proposed Project.
 - d. Potential Mitigation Measures.
- 3. Social Services.
 - a. Existing Conditions.
 - b. Future Conditions Without the Project.
 - c. Potential Impacts.
 - d. Potential Mitigation Measures.

I. <u>HISTORIC AND ARCHAEOLOGICAL RESOURCES</u>.

- 1. Existing Conditions.
- 2. Future Conditions Without the Project.
- 3. Potential Impacts.
 - a. Discussion of potential impacts on historic and archaeological resources.
- 4. Potential Mitigation Measures.

J. <u>CONSTRUCTION</u>

- 1. Existing Conditions.
 - a. Describe construction related issues associated with existing structures that are proposed to be demolished or renovated.
- 2. Future Impacts Without the Project.
- 3. Potential Impacts.
 - a. Identification of potential short-term impacts from demolition, rock blasting and chipping, if any, site preparation, phasing and staging, and hours of construction operations.
 - b. Discuss issues such as noise, air quality, stormwater and traffic due to construction activities.
- 4. Potential Mitigation Measures.
 - a. Discussion of construction management techniques, phasing and control plans and best management practices to be employed to avoid, minimize or mitigate potential impacts associated with construction activities, including but not limited to earthwork activities, rock blasting and chipping protocols, if any, and construction traffic.
 - b. Provide Phasing Plans including descriptions of major phases and subphases, if applicable.
 - c. Provide and describe a Construction Logistics Plan and Schedule.

IV. ALTERNATIVES

- 1. No Build (No Action) Alternative.
- 2. Development of the project in compliance with existing zoning (3 single-family residences).
- 3. Reduced scale project

V. <u>ADVERSE ENVIRONMENTAL IMPACTS THAT CANNOT BE AVOIDED</u>

Where significant environmental impacts of the Proposed Project cannot be mitigated, these will be described as unavoidable adverse impacts and identified in this section. Impacts may be both short-term (construction-related) and long-term in nature.

VI. GROWTH INDUCEMENT

This section will assess and analyze, together with the impacts of the Proposed Project, whether additional off-site growth would be stimulated, where this growth would occur and the type and magnitude of growth anticipated.

VII. USE AND CONSERVATION OF ENERGY

This section will address the energy resources to be used if the Proposed Project is implemented, the anticipated levels of consumption, and ways to reduce energy consumption.

VIII. IRRETRIEVABLE & IRREVERSIBLE COMMITMENT OF RESOURCES

This section will assess the natural and human resources that will be consumed, converted or made unavailable for future use if the Proposed Project is implemented.

IX. SOURCES & BIBLIOGRAPHY

X. APPENDICES

- A. SEOR Documentation
 - 1. Environmental Assessment Form
 - 2. Positive Declaration
 - 3. DEIS Scoping Document
- B. Correspondence and Contacts related to issues discussed in the DEIS
- C. Technical Studies

DIVNEY • TUNG • SCHWALBE Intelligent Land Use

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William J. Carey, Jr. Mark S. Gratz, P.E.

Lisa L. Baker, AICP, ASLA Maria A. Coplit, P.E. Donna M. Maiello, ASLA

March 7, 2014

Christopher Mytych, Chief Purchase Fire Department 614 Anderson Hill Road Purchase, NY 10577

RE: Trinity Presbyterian Church <u>Town of Harrison</u>, New York

Dear Chief Mytych:

Our firm serves as the planning and engineering consultant for Trinity Presbyterian Church, the owner of property located at 526 – 530 Anderson Hill Road in Harrison, New York. The Property is located on the southerly side of Anderson Hill Road, approximately 375 feet east of the Anderson Hill Road and Purchase Street intersection, and directly abuts the Purchase Elementary School playing fields to the rear (south). The Property is comprised of three (3) tax lots totaling 6.49 acres, known and designated on the Town of Harrison Tax Maps as Block 643, Lots 7, 44 & 49. The Property is improved with an existing 2 ½ story residence with an entrance driveway from Anderson Hill Road. Our firm will be coordinating the preparation of the Draft Environmental Impact Statement (DEIS) for the project, which will be overseen by the Town of Harrison Planning Board serving as Lead Agency for the State Environmental Quality Review (SEQR) process.

In order to prepare the Community Services section of the DEIS, we are seeking your input and assistance.

Summary of the Proposed Project

Trinity proposes to convert the existing 6,800 square foot residence on the Property to accommodate fellowship space, administrative offices and support space and to construct a 19,200 square foot addition connected to the former house in which a sanctuary and religious instruction rooms will be located. The resulting church will consist of a building of 26,000 square feet on its Property for use as a place of worship, along with attendant off-street parking and stormwater facilities. The existing west driveway will be widened and a new east driveway will be provided to provide access to Anderson Hill Road. See attached figure *Aerial Photograph – Site Plan*.

The Church has been holding its Sunday services at the School of the Holy Child in Harrison since June 1995. Approximately 200 people, mostly families, currently attend services on Sundays, generally arriving in fewer than 100 cars.

Your information provided in response to the following questions outlined in the Adopted Scoping Document (2/25/2014) will be incorporated into the DEIS:

Mr. Christopher Mytych, Fire Chief

Re: Trinity Presbyterian Church

March 7, 2014

Page 2

Existing Conditions

1. Please identify and describe existing Fire Department facilities, personnel, and available inter-municipal services.

2. Please identify any existing issues related to Fire Department response times in the vicinity of the Project Site.

Future Conditions WITHOUT the Proposed Project

3. Please describe the anticipated needs of the Fire Department in order to meet future community demands within the next 5 years (through 2019, if known) without the Trinity Presbyterian Church project.

Potential Impacts WITH the Proposed Project

4. Please identify the ability of your department to accommodate potential service calls to the proposed Trinity Presbyterian Church project and any changes to response times in the project vicinity.

If possible, we would greatly appreciate receiving your written responses to the questions by March 27, 2013 so that they could be included in the DEIS that we plan to submit to the Town.

If possible, we would greatly appreciate receiving your written responses to the questions by March 27, 2014. We would also be happy to meet with you to discuss these questions in person, as well as the site plan-related items in the few weeks. Should you have any questions, please contact me directly at 428-0010 or msteinberg@divneytungschwalbe.com. We will follow up with you over the next week to set up a meeting to discuss the Fire Department's resources.

Very truly yours,

DIVNEY TUNG SCHWALBE, LLP

Matthew N. Steinberg, AICP

Planner

Enclosures



Divney Tung Schwalbe, LLP One North Broadway White Plains, NY 10601

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William J. Carey, Jr. Mark S. Gratz, P.E.

Lisa L. Baker, AICP, ASLA Maria A. Coplit, P.E. Donna M. Maiello, ASLA

March 7, 2014

Joseph Bilotto, Chief Harrison Emergency Medical Services PO Box 68 Harrison, NY 10528

RE: Trinity Presbyterian Church <u>Town of Harrison, New York</u>

Dear Chief Bilotto:

Our firm serves as the planning and engineering consultant for Trinity Presbyterian Church, the owner of property located at 526 - 530 Anderson Hill Road in Harrison, New York. The Property is located on the southerly side of Anderson Hill Road, approximately 375 feet east of the Anderson Hill Road and Purchase Street intersection, and directly abuts the Purchase Elementary School playing fields to the rear (south). The Property is comprised of three (3) tax lots totaling 6.49 acres, known and designated on the Town of Harrison Tax Maps as Block 643, Lots 7, 44 & 49. The Property is improved with an existing 2 ½ story residence with an entrance driveway from Anderson Hill Road. Our firm will be coordinating the preparation of the Draft Environmental Impact Statement (DEIS) for the project, which will be overseen by the Town of Harrison Planning Board serving as Lead Agency for the State Environmental Quality Review (SEQR) process.

In order to prepare the Community Services section of the DEIS, we are seeking your input and assistance.

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The Church has been holding its Sunday services at the School of the Holy Child in Harrison since June 1995. Approximately 200 people, mostly families, currently attend services on Sundays, generally arriving in fewer than 100 cars.

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Mr. Joseph Bilotto, Chief

Re: Trinity Presbyterian Church

March 7, 2014

Page 2

Existing Conditions

1. Please identify and describe existing EMS facilities, personnel, and available intermunicipal services.

2. Please identify any existing issues related to EMS response times in the vicinity of the Project Site.

Future Conditions WITHOUT the Proposed Project

3. Please describe the anticipated needs of Harrison EMS in order to meet future community demands within the next 5 years (through 2019, if known) without the Trinity Presbyterian Church project.

Potential Impacts WITH the Proposed Project

4. Please identify the ability of your department to accommodate potential service calls to the proposed Trinity Presbyterian Church project and any changes to response times in the project vicinity.

If possible, we would greatly appreciate receiving your written responses to the questions by March 27, 2013 so that they could be included in the DEIS that we plan to submit to the Town. I would also be available to meet or speak on the telephone with you if that would be convenient. Should you have any questions, please contact me directly at 428-0010 or msteinberg@divneytungschwalbe.com.

Very truly yours,

DIVNEY TUNG SCHWALBE, LLP

Matthew N. Steinberg, AICP

Planner

Enclosures

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William J. Carey, Jr. Mark S. Gratz, P.E.

Lisa L. Baker, AICP, ASLA Maria A. Coplit, P.E. Donna M. Maiello, ASLA

March 7, 2014

Anthony Marraccini, Chief of Police Town of Harrison Police Department 650 North Street Harrison, NY 10528

RE: Trinity Presbyterian Church Town of Harrison, New York

Dear Chief Marraccini:

Our firm serves as the planning and engineering consultant for Trinity Presbyterian Church, the owner of property located at 526 – 530 Anderson Hill Road in Harrison, New York. The Property is located on the southerly side of Anderson Hill Road, approximately 375 feet east of the Anderson Hill Road and Purchase Street intersection, and directly abuts the Purchase Elementary School playing fields to the rear (south). The Property is comprised of three (3) tax lots totaling 6.49 acres, known and designated on the Town of Harrison Tax Maps as Block 643, Lots 7, 44 & 49. The Property is improved with an existing 2 ½ story residence with an entrance driveway from Anderson Hill Road. Our firm will be coordinating the preparation of the Draft Environmental Impact Statement (DEIS) for the project, which will be overseen by the Town of Harrison Planning Board serving as Lead Agency for the State Environmental Quality Review (SEQR) process.

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The Church has been holding its Sunday services at the School of the Holy Child in Harrison since June 1995. Approximately 200 people, mostly families, currently attend services on Sundays, generally arriving in fewer than 100 cars.

Your information provided in response to the following questions outlined in the Adopted Scoping Document (2/25/2014) will be incorporated into the DEIS:

Mr. Anthony Marracchini, Chief of Police

Re: Trinity Presbyterian Church

March 7, 2014

Page 2

Existing Conditions

1. Please identify and describe existing Police facilities, personnel, and available intermunicipal services.

2. Please identify any existing issues related to Police response times in the vicinity of the Project Site.

Future Conditions WITHOUT the Proposed Project

3. Please describe the anticipated needs of Harrison Police Department in order to meet future community demands within the next 5 years (through 2019, if known) without the Trinity Presbyterian Church project.

Potential Impacts WITH the Proposed Project

4. Please identify the ability of your department to accommodate potential service calls to the proposed Trinity Presbyterian Church project and any changes to response times in the project vicinity.

If possible, we would greatly appreciate receiving your written responses to the questions by March 27, 2013 so that they could be included in the DEIS that we plan to submit to the Town. I would also be available to meet or speak on the telephone with you if that would be convenient. Should you have any questions, please contact me directly at 428-0010 or msteinberg@divneytungschwalbe.com.

Very truly yours,

DIVNEY TUNG SCHWALBE, LLP

Matthew N. Steinberg, AICP

Planner

Enclosures

Steinberg, Matthew N.

From: Joseph Bilotto <jbilotto@harrisonems.com>

Sent: Monday, April 07, 2014 12:40 PM

To: Steinberg, Matthew N.

Subject: RE: Trinity Presbyterian Church Project

Most of the time they hire us to have an ambulance on site for events. So yes we have advance notification. As far as protocols for response, they are always changing. If there are road closures, HPD notifies us so we can adjust our resonse, but road closures mean nothing when we have an emergency, roads open for us, LOL.

From: Steinberg, Matthew N. [mailto:msteinberg@divneytungschwalbe.com]

Sent: Monday, April 07, 2014 11:58 AM

To: Joseph Bilotto

Subject: RE: Trinity Presbyterian Church Project

Mr. Bilotto,

Thank you very much for the response. We are still in the process of preparing the DEIS. We have been informed that Anderson Hill Road and Purchase Street are occassionally closed for events hosted at the nearby Colleges/Universities. Does your department receive advanced notification of these events, and is there any particular protocol that you follow for responses to the area when the roads are closed?

Thank you, Matt

Matthew N. Steinberg, AICP msteinberg@divneytungschwalbe.com



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From: Joseph Bilotto [mailto:jbilotto@harrisonems.com]

Sent: Tuesday, April 01, 2014 3:23 PM

To: Steinberg, Matthew N.

Subject: Trinity Presbyterian Church Project

Mr. Steinberg,

I apologize for not getting to you sooner and by the 27th as requested. Your project with truly have no significant impact to EMS or our response. We are a paid EMS service and we have 56 employees on staff with 2 Advanced Life Support ambulances to service the community with the capabilities of having 4 trucks out running depending on funding and our busy season. We currently run between 3200-3500 calls for service per year.

Unfortunately, we are responding from North Street in downtown Harrison. I have been trying to obtain another location in the Purchase/West Harrison are to decrease response times, but can't obtain the funding to do so. Our current structure we have out grown and we are trying to raise money for renovations.

As with all EMS Agencies we are a part of the County Mutual; Aid response plan. So if we are all out on calls then we have other cities/towns that would come in to cover additional calls in our response area. Our response time to that are depends on where we are responding from and the time of day, but on average we are there within 8 min. The police department sends a police unit to all EMS calls for service, so you will see a unit there very quickly. They are there within 1 min of a 9-1-1 call. We are working with Purchase FD to possibly house an ambulance at their possibly newly renovated firehouse which they are talking about but that is years away and would be a rapid response for us to Purchase from there facility.

Our needs are our needs and won't change if your project moves forward or not. Not attempting to be a mean person, just say it like it is.

Good luck with your project,

Joseph Bilotto, B.S, NREMT-P/NYS-CIC, FF **Chief of Operations**

Harrison Emergency Medical Services



Jbilotto@harrisonems.com



914-921-0100



914-630-8294



914-330-9102



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you have received this transmission in error, please notify the sender immediately by e-mail and delete the original message.

Steinberg, Matthew N.

From: Christopher Mytych <cmytych@purchasefd.com>

Sent: Wednesday, April 23, 2014 6:57 AM

To: Steinberg, Matthew N.

Subject: re: FW: Trinity Presbyterian Church

Matt.

I sincerely apologize for not replying sooner. To avoid delaying the process any further, I will do my best to answer the questions regarding existing conditions and potential impacts.

- 1. The Purchase Fire Department operates out of a three-story fire station located at 614 Anderson Hill Road, Purchase, NY 10577. Since its construction in 1939, the station has undergone three major renovations to accommodate expanding needs. We operate three engines, one tower ladder, one rescue vehicle, and two command vehicles. The department is staffed by approximately 50 volunteer firefighters. We comply with the provisions of the Westchester County Fire Mutual Aid Plan and have reciprocal agreements with neighboring fire departments including, but not limited to, West Harrison, Harrison, and Port Chester. Greater-alarm assignments have been established and maintained by the Emergency Communications Center for the efficient deployment of mutual aid resources during major emergencies.
- 2. Response times are marginally impacted by westbound vehicle traffic on Anderson Hill Road during peak travel periods. Such volume is exacerbated by the lack of a dedicated left turn lane on Anderson Hill Road at the Purchase Street intersection. Four of our vehicles are equipped with a line-of-sight traffic signal preemption system, which obtains the right-of-way, but this process is only initiated within approximately 500 feet of the intersection due to the angle of approach.
- 3. Considering upward trends in annual incident totals and the constant residential and commercial growth since our incorporation, we anticipate greater community demands within the next five years. One example of community growth includes a proposed 385-unit senior housing project situated across 40 acres of the Purchase College campus. To meet such demands, we will need to continue our efforts to recruit and retain members, primarily due to the high cost of living in the area. We may also need to consider expanding our live-in program, which provides free living space at the fire station in exchange for department service.
- 4. Based on the summary of the proposed Trinity Presbyterian Church project and the related discussion at our meeting on 3/19/14, I am confident that the Purchase Fire Department will be able to accommodate potential service calls to the property. Upon completion, it is unlikely that the presence of Trinity Presbyterian Church will have any impact on response times since services will typically be held during off-peak travel periods.

Finally, I wish to respond to your inquiries following our meeting on 3/19/14. Bob's last name is "Makowski." He serves as Secretary of the Purchase Fire District. As far as events are concerned, the *Making Strides Against Breast Cancer* Walk, which begins and ends at Manhattanville College, is typically held annually on the third Sunday of October. Parts of Purchase Street and Anderson Hill Road, including the project vicinity, are closed for much of the morning. Apparatus are strategically positioned for the duration to ensure timely response throughout the district. Other events that severely impact traffic patterns are typically communicated to us by the Harrison Police Department, but occur infrequently.

Please let me know if you require further clarification or if you have additional questions. I'll do my best to respond in a timely fashion!

Regards,

Chris

Christopher Mytych Chief Purchase Fire Department 614 Anderson Hill Road Purchase, NY 10577 T: (914) 253-9044

T: (914) 253-9044 F: (914) 253-8170 www.purchasefd.com

From: "Steinberg, Matthew N." <msteinberg@divneytungschwalbe.com>

Sent: Monday, April 21, 2014 1:41 PM

Steinberg, Matthew N.

From: AGiannetti@harrison-ny.gov
Sent: Friday, May 02, 2014 10:45 AM

To: Steinberg, Matthew N.

Cc: ARobinson@harrison-ny.gov; ADelborgo@harrison-ny.gov

Subject: Re: Refuse Collection - Proposed Trinity Presbyterian Church at 526-530 Anderson Hill Road

Attachments: 20140501161249366.pdf; 20140501161553856 0001.pdf

Follow Up Flag: Follow up Flag Status: Flagged

Matthew,

The Church would be eligible for the Commercial Garbage Program with a limit of up to four (4) 2 cubic yard containers for garbage and recycling combined. Anything above this limit would exclude the property from the program, and the following program information would not apply.

Commercial Garbage Program: All commercial properties are handled in the same manner regardless of property classification. A property which is included in this program is not required to utilize the Village's garbage collection; however, would be required to pay a registration fee to "opt out" of the program. All fees are based on the number of pails or containers for garbage only. Please refer to the program letter for a description of fees and collection schedule.

Program letter: Application (program letter attachment):

If you have additional questions, please feel free to contact me.

Regards, Anna

Anna Giannetti Town/Village of Harrison Department of Public Works (914) 670-3128 (phone) (914) 835-2387 (fax) agiannetti@harrison-ny.gov

From: "Steinberg, Matthew N." msteinberg@divneytungschwalbe.com
To: "agiannetti@harrison-ny.gov" agiannetti@harrison-ny.gov,

Date: 04/24/2014 10:38 AM

Subject: Refuse Collection - Proposed Trinity Presbyterian Church at 526-530 Anderson Hill Road

Ms. Giannetti

Our firm serves as the planning and engineering consultant for Trinity Presbyterian Church, the owner of property located at 526 – 530 Anderson Hill Road in Harrison, New York. The Property is located on the southerly side of Anderson Hill Road, approximately 375 feet east of the Anderson Hill Road and Purchase Street intersection, and directly abuts the Purchase Elementary School playing fields to the rear (south). I have attached a location map of the proposed project.

Our firm is working on the preparation of the Draft Environmental Impact Statement (DEIS) for the project, which will be reviewed and overseen by the Town of Harrison Planning Board.

Trinity proposes a construct a house of worship (utilizing the existing residence with a proposed addition) on the subject property.

There would be no residential uses on the property as part of the proposed project.

The refuse and sanitation division directed us to speak with you on this matter. We would like to discuss if the Church would be eligible or required to utilize the Town's garbage collection, and if so are there other religious or similar institutional examples in the Town that we could review in terms of operations and collection procedures. If the Church would not be eligible or required to use Town collection, are there additional requirements for utilizing a licensed private carter in terms of Chapter 155, *Garbage, Rubbish and Refuse* of the Village Code.

I would be happy to discuss the project with you or provide additional details if needed. Thank you for your assistance.

Thanks, Matt

Matthew N. Steinberg, AICP msteinberg@divneytungschwalbe.com
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[attachment "766 14-11-19 Aerial - Site Plan Render.pdf" deleted by Anna Giannetti/Town Of Harrison]



TOWN AND VILLAGE OF HARRISON

DEPARTMENT OF PUBLIC WORKS

Anthony P. Robinson, Commissioner of Public Works
Alfred F. Sulla, Jr. Municipal Building
I Heineman Place
Harrison, New York 10528
Telephone: (914) 670-3100 (DPW OFFICE)



March 27, 2014

Owner Owner Mailing Address City, State Zip

Re: 2014 Commercial Sanitation Permit Application and Fees

Legal Address (Block/Lot:

Dear Property Owner,

The 2013 Commercial Garbage program permits will be expiring on April 30, 2014. As such, it is necessary to apply for a 2014 Commercial Garbage permit. The annual registration and collection fees for Commercial garbage pick-up will remain the same as last year.

As a participant in our Commercial Garbage Collection Program you are required to adhere to the Westchester County Source Separation Law (SSL). During the course of 2013 there were several Commercial Garbage Permit Holders that were in violation of the SSL for mixing garbage with recycling or garbage with yard waste (such as leaves). The Westchester County Department of Environmental Facilities, as well as the Town/Village of Harrison, enforces the provision of the SSL. Violations may result in fines up to \$1,000. In addition, the Town/Village of Harrison reserves its right to drop a Commercial Garbage Permit Holder from this program for non-compliance with the SSL. For more information on the Source Separation visit www.westchestergov.com/recycle or call the County's Recycling Help Line at 914-813-5425.

Commercial property owners may choose to "opt out" of the Commercial Garbage Program should they so desire. However, the \$100.00 registration fee shall still be payable to ensure acceptability of the alternate carter chosen and to verify proper disposal of materials generated at each location. Failure to register for an "Opt Out" permit will subject the property to the penalties described below.

The following yearly fee schedule is based on two (2) collections per week:

- Registration fee: a yearly registration fee of \$100 will be charged for each property address that is included in commercial collection.
- Yearly collection fee is based on the following:
 - Containers up to two (2) 2-yard containers per week \$1,200.00 per year with each additional container charged at \$600.00 per year. Example: Three 2-yard containers - yearly collection fee is \$1,800.00.
 - Pails \$500.00 annually for 1-10 pails. Any property that has more then 10 pails will need to convert to a 2-vard container.

(Over)

- Payment in full should be submitted with the attached application and must be received or
 post marked by September 30, 2014. Payments past that date will incur a penalty. The
 Town/Village also reserves the right to cease providing sanitation services to commercial
 properties that fail to comply with Town/Village Law Chapter 155.
- Penalties will be assessed as follows:
 - Payments received between October 1, 2014 through October 31, 2014 will be assessed a \$150.00 penalty. Please include the penalty amount with your late payment. Failure to do so will have your permit application and check returned to you.
 - After October 31, 2014 no payments will be received by this office. A \$250.00 penalty along with the appropriate registration and collection fees (as determined by the Department of Public Works) will be assessed to the property on the 2015 Tax Roll and that payment will need to be made with your taxes.

The Commercial Garbage Program schedule is as follows and may be subject to further change:

- · Commercial garbage will be collected on Monday and Friday.
- Commercial Recycling will be collected on Tuesday and Thursday.
- On Wednesday Commercial bulk trash will be collected.
- Additional "will call" pickups will also be made on Wednesdays.

Attached please find a copy of the Application for Commercial Sanitation Pickup. Please mail back the completed application to the attention of the Department of Public Works at the above address and enclose a check (for the amount of the Registration Fee plus Collection Fee) made payable to the Town/Village of Harrison with the application. Permits will be mailed to applicants once they are processed.

Yours truly,

Anthony P. Robinson Commissioner of Public Works

Attachment

Town/Village of Harrison Application/Registration for Commercial Sanitation Pickup May, 2014 – April, 2015

Print Property Owner Name:	
Owner Signature:	
Owner Mailing Address:	
Contact Phone #:	
Property Address:	
Establishment Name:	
Number of Pails or Bags:	
Pail Location:	
Number of two (2) yard Dumpsters:	
Dumpster Location:(Please Do Not Detach)	
"Opt Out: (If you are opting out of this program, please also complete this section.)	
I choose to opt out of this program and will have my garbage collected by some other other then the Town/Village of Harrison. I understand that I am still obligated to pay \$100.00 registration fee.	
Print Name:	
Owner Signature:	
Designate Alternate Carter:	
Alternate Carter Address:	
Alternate Carter Telephone:	

Completed forms and payment (Registration & Collection fees) should be mailed to the attention of DPW at the Alfred F. Sulla, Jr. Municipal Building, 1 Heineman Place, Harrison, NY 10528. Please make checks payable to the Town/Village of Harrison. Full payment must be received or post marked by September 30, 2014; if not, penalties will be applied. There are no exceptions.

<u>Note</u>: Changes to an owner's mailing address must be made in writing and sent under separate cover to the Assessor's office at the above address.

WILLIAM KENNY ASSOCIATES LLC

SOIL SCIENCE
ECOLOGICAL SERVICES
LAND USE PLANNING
LANDSCAPE ARCHITECTURE

June 26, 2013

Ms. Lisa Baker, AICP, ASLA Divney Tung Schwalbe One North Broadway White Plains, NY 10601

RE: Preliminary Investigation for Wetlands, Watercourses, and Other Rare Habitats 526 & 530 Anderson Hill Road, Purchase, New York

Dear Ms. Baker:

As requested, I visited the referenced properties at 526 & 530 Anderson Hill Road in Purchase, New York to determine the presence or absence of wetlands and/or watercourses or other rare or sensitive habitats, flora or fauna. This letter includes the methods and results of my preliminary investigation, which I completed on June 4, 2013. In summary, no wetland, watercourses or other sensitive natural resources were observed or are expected to occur at the property.

Regulatory Definitions

At the subject property, there is the potential for the following three government entities to regulate certain activities in and/or adjacent to wetlands and watercourses: Town of Harrison, NYSDEC and ACOE.

The Town of Harrison regulates certain activities in and adjacent to wetlands, waterbodies and natural drainage systems under the *Harrison Town Codes*. In the law, wetlands are defined as: any area that meets one or more of the following criteria:

- A. Lands and waters of the state that meet the definition provided in § 24-0107, Subdivision 1, of the New York State Freshwater Wetlands Act (see Article 24 and Title 23 of Article 71 of the Environmental Conservation Law) and have an area of at least 12.4 acres or, if smaller, have unusual local importance as determined by the Commissioner pursuant to § 24-0301, Subdivision 1, of the Act. The approximate boundaries of such lands and waters are indicated on the official freshwater wetlands map promulgated by the Commissioner pursuant to § 24-0301, Subdivision 5, of the Act or such a map that has been amended or adjusted pursuant to § 24-0301, Subdivision 6, of said Act.
- B. Lands and waters of the state that meet the definition provided in § 25-0103, Subdivision 1, of the New York State Tidal Wetlands Act (see Article 25 of the Environmental

- Conservation Law). The approximate boundaries of such lands and waters are indicated on the official tidal wetlands inventory promulgated by the Commissioner pursuant to § 25-0201 of the Act or such an inventory that has been amended or adjusted pursuant to § 25-0201, Subdivision 6, of said Act.
- C. All other areas that comprise hydric soils or are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of hydrophytic vegetation, all as defined by the *Federal Manual for Identifying and Delineating Jurisdictional Wetlands* (1989), which manual shall be available for inspection in the City Naturalist's office and in the City Planner's office.

The DEC protects freshwater wetlands and regulates certain activities occurring within adjacent areas (land within 100 feet horizontally of DEC wetlands) under State of New York Article 24 on the Environmental Conservation Law. The Act defines wetlands "as lands and submerged lands commonly known as swamps, sloughs, bogs and flats which support wetland vegetation." Based on the New York State Wetlands Delineation manual, the primary criteria for wetland delineation are determined by the presence of hydrophytic vegetation. However, field verification of wetlands may be supported by the presence of hydric soils and wetland hydrology, as per the Corps 1987 manual. Under Title 3 of the Act, freshwater wetlands with an area of 12.4 acres or more are regulated by the DEC. Wetlands less than 12.4 acres may also be regulated, if they are determined to be of unusual importance.

The federal government regulates certain activities in the Waters of the United States. Waters of the United States are navigable waters, their tributaries, and adjacent wetlands and other waters or wetlands where their degradation or destruction could affect interstate or foreign commerce. Wetlands are defined as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adopted for life in saturated soil conditions. As specified in the U.S. Corps of Engineers 1987 publication *Corps of Engineers Wetlands Delineation Manual* an area is a wetland if a minimum of one positive field indicator of wetland (hydrophytic) vegetation, wetland (hydric) soils and wetland hydrology are identified. The Corps uses the presence or absence of an ordinary high water mark or bed and bank to determine surface waters (e.g., ponds and streams), including intermittent watercourses. Wetland vegetation need not be present to complete a waterbody determination.

Methodology

Wetland identification was based on the presence of hydric soils and/or a prevalence of hydrophytic vegetation. Soil types were identified by observation of soil morphology (soil texture, color, structure, etc.). To observe the morphology of the property's soils, test pits and/or borings (maximum depth of two feet) were completed at the site. Prevalence of hydrophytic vegetation was confirmed by visually determining the dominant plant species in each vegetation community in accordance with the Onsite Routine Determination Method as described in the 1987 manual titled Corps of Engineers Wetland Delineation Manual.

The soil investigation included the completion of a Second Order soil survey in accordance with the principles and practices noted in the USDA publication *Soil Survey Manual* (1993). The classification system of the National Cooperative Soil Survey was used in this investigation. Soil map units identified at the project site generally correspond to those included in the *Soil Survey of Putnam and Westchester Counties, New York* (USDA 1994).

Waterbody determinations were based on the presence or absence of an ordinary high water mark or bed and bank.

The wetland and watercourse determination is subject to change until adopted by local, state, or federal regulatory agencies.

On the day of the review, the sky was clear and air temperatures were in the 70's ° F. The soil was moist.

Results

The approximate 6.5-acre project site includes the residential property at 526 Anderson Hill Road and the vacant property at 530 Anderson Hill Road. Anderson Hill Road borders the northern property boundaries. Residential improvements at 526 Anderson Hill Road include a single-family residence, an in-ground pool and an asphalt driveway. The vegetative cover at 526 Anderson Hill Road is primarily lawn with other ornamentals and shade trees. The vegetative cover at 530 Anderson Hill Road is primarily an old-field with woodland borders. These vegetative cover-types are common in the region and state and are not expected to support rare or sensitive flora or fauna. No wetlands, watercourses, or other sensitive or rare habitats, flora or fauna were observed at the property.

Three soil map units were identified on the property. Each map unit represents a specific area on the landscape and consists of one or more soils for which the unit is named. Other soils (inclusions that are generally too small to be delineated separately) may account for 10 to 15 percent of each map unit. The mapped units are identified in the following table by name and symbol and typical characteristics (parent material, drainage class, high water table, depth to bedrock, and slope). These characteristics are generally the primary characteristics to be considered in land use planning and management. A description of each characteristic and their land use implications follows the table. A complete description of each soil map unit can be found in the *Soil Survey of Putnam and Westchester Counties, New York* (USDA 1994), and at http://soils.usda.gov/technical/classification/osd/index.html.

Sym	Map Unit Name	Parent <u>Material</u>	<u>Slope</u> (%)	Drainage <u>Class</u>	Hig Depth (ft)	h Water T <u>Kind</u>	able Mos.	Depth To Bedrock (in)
	Upland Soil							
Pn	Paxton sandy loam	fine Compact Glacial Till	2-8 8-15 15-25	Well Drained	1.5-2.5	Perched	Feb Apr.	>60
Ub	Udorthents, smoothed	Excavated or Filled Soil (>2 feet)	0-15	Well Drained to Moderately Well Drained	1.5-3.5	Apparent	Nov-May	>60
Wd	Woodbridge loam	Compact Glacial Till	0-3 3-8 8-15	Moderately Well Drained	1.5-2.5	Perched	Nov-May	>60

Parent material is the unconsolidated organic and mineral material in which soil forms. Soil inherits characteristics, such as mineralogy and texture, from its parent material. Glacial till is unsorted, nonstratified glacial drift consisting of clay, silt, sand, and boulders transported and deposited by glacial ice. Glacial outwash consists of gravel, sand, and silt, which are commonly stratified, deposited by glacial melt water. Alluvium is material such as sand, silt, or clay, deposited on land by streams. Organic deposits consist of decomposed plant and animal parts.

A soil's texture affects the ease of digging, filling, and compacting and the permeability of a soil. Generally sand and gravel soils, such as outwash soils, have higher permeability rates than most glacial till soils. Soil permeability affects the cost to design and construct subsurface sanitary disposal facilities and, if too slow or too fast, may preclude their use. Outwash soils are generally excellent sources of natural aggregates (sand and gravel) suitable for commercial use, such as construction sub base material. Organic layers in soils can cause movement of structural footings. Compacted glacial till layers make excavating more difficult and may preclude the use of subsurface sanitary disposal systems or increase their design and construction costs if fill material is required.

Generally, soils with steeper slopes increase construction costs, increase the potential for erosion and sedimentation impacts, and reduce the feasibility of locating subsurface sanitary disposal facilities.

Drainage class refers to the frequency and duration of periods of soil saturation or partial saturation during soil formation. Seven classes of natural drainage classes exist. They range from excessively drained, where water is removed from the soil very rapidly, to very poorly drained, where water is removed so slowly that free water remains at or near the soil surface during most of the growing season. Soil drainage affects the type and growth of plants found in an area. When landscaping or gardening, drainage class information can be used to assure that proposed plants are adapted to existing drainage conditions or that necessary alterations to drainage conditions (irrigation or drainage systems) are provided to assure plant survival.

High water table is the highest level of a saturated zone in the soil in most years. The water table can affect the timing of excavations; the ease of excavating, constructing, and grading; and the supporting capacity of the soil. Shallow water tables may preclude the use of subsurface sanitary disposal systems or increase design and construction costs if fill material is required.

The depth to bedrock refers to the depth to fixed rock. Bedrock depth affects the ease and cost of construction, such as digging, filling, compacting, and planting. Shallow depth bedrock may preclude the use of subsurface sanitary disposal systems or increase design and construction costs if fill material is required.

Conclusions

Today, I completed a preliminary investigation of the properties at 526 & 530 Anderson Hill Road in Purchase, New York and found no wetlands, watercourses, or other sensitive or rare habitats, flora or fauna. The project site is not expected to support sensitive or rare flora or fauna. Thank you for the opportunity to assist you with this project. If you should have any questions or comments, please do not hesitate to contact me.

Sincerely

William L. Kenry, PWS, RL

Ref. No. 2621



TRINITY PRESBYTERIAN CHURCH HARRISON, NEW YORK

PRELIMINARY STORMWATER POLLUTION PREVENTION PLAN

Prepared for the Fulfillment of:

New York State Department of Environmental Conservation SPDES General Permit for Stormwater Discharges from Construction Activities Permit No. GP-0-10-001

Prepared by:

Divney Tung Schwalbe, LLP One North Broadway, Suite 1407 White Plains, NY 10601

> June 26, 2014 Revised August 26, 2014

TRINITY PRESBYTERIAN CHURCH TOWN OF HARRISON, NEW YORK

PRELIMINARY STORMWATER POLLUTION PREVENTION PLAN

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TAB 1

1. BACKGROUND

a. <u>Document Description</u>

This document is a Preliminary Stormwater Pollution Prevention Plan (SWPPP) prepared and maintained in compliance with the New York State Department of Environmental Conservation (NYSDEC) SPDES General Permit for Storm Water Discharges from Construction Activity (Permit Number GP-0-10-001) for the proposed Trinity Presbyterian Church project in the Town of Harrison, New York.

This SWPPP includes text (the documents bound in this notebook) and drawings as listed in Section 2.h. that describe the existing developed condition of the site and the estimated redeveloped conditions during and after construction.

The following is a list and brief description of the sections of this text as identified in the Table of Contents:

Sections 1 and 2: Description of the existing developed site conditions and the conditions that are predicted to occur during and after the proposed project is constructed and the site redeveloped.

Section 3, Appendix A: The Stormwater Management Reports outline the improvements planned to control stormwater runoff in terms of quantity and quality according to the requirements of the NYSDEC SPDES GP-0-10-001.

Section 4, Appendix B: The certification forms to be completed by the project operator and the project contractors responsible for the implementation of this Plan.

Section 5, Appendix C: The Construction Activity Initiation and Completion Dates form to be completed by the contractor as the project is constructed.

Section 6, Appendix D: Blank Stormwater Pollution Prevention Plan Observation Report to be completed by the certified inspector after each inspection conducted and as described in Section 1. d. vi. (3) (a) of this text.

Section 7, Appendix E: A copy of the NYSDEC SPDES General Permit For Stormwater Discharges From Construction Activity (Permit Number GP-0-10-001). The contractor is responsible for maintaining compliance with this permit.

Section 8, Appendix F: Applications and approvals related to the SWPPP will be inserted into this section as they are completed. These documents will include the Notice of Intent and the Notice of Termination.

Compliance with the NYSDEC SPDES General Permit for Storm Water Discharges from Construction Activities (General Permit) includes, but is not limited to, completing the following activities:

- i. Retaining a copy of this SWPPP including text, appendices, and drawings at the site until the date of final stabilization;
- ii. Posting a copy of the NOI and a project description at the construction site for public viewing;
- iii. Maintaining the SWPPP current;
- iv. Submitting a certified Notice of Termination when the site has finally been stabilized and discharges from construction activities have been eliminated;
- v. Maintaining a copy of this SWPPP by the operator for three years following the date of final stabilization.

The contractor shall refer to the NYSDEC SPDES General Permit for Storm Water Discharges from Construction Activities (Appendix E) for a complete listing of permit requirements for compliance.

b. Project Location

The site is located along Anderson Hill Road in the Town of Harrison, New York within the Blind Brook Basin. The site ultimately discharges into two existing water courses to the west and east of the site. Along with the Town of Harrison, the New York State Department of Environmental Conservation (NYSDEC) has jurisdiction over stormwater measures at the site.

c. Project Site Description

The existing project site is currently occupied by a single-family residence and accessory uses along Anderson Hill Road. The site is approximately 6.46 acres, of which an estimated 4.68 acres will be disturbed to construct the proposed Trinity Presbyterian Church project. Approximately 0.52 acres within the limit of disturbance area is currently impervious, and an estimated 1.66 acres of impervious area is proposed to be added.

Project Description

The proposed Trinity Presbyterian Church project proposes to redevelop the existing site while proposing new construction to allow for an attached sanctuary and associated parking. The main stormwater management goal of the redevelopment of the site is to maintain the general drainage patterns of the existing site while "correcting existing problems and reduce pollutant discharges from older developed areas that were constructed without effective stormwater pollution controls."

The site contains two discharge points (DP) to the southwest and southeast of the site at existing water courses. Stormwater runoff from the proposed redeveloped sub-watershed areas will ultimately discharge to the same discharge points under existing conditions, though the majority of the disturbed portion of the site will be directed to a proposed 280 linear foot drainage system in Anderson Hill Road. The proposed catch basin and storm piping would connect to the existing system in Anderson Hill Road, located west of the driveway at 548 Anderson Hill Road. The diversion of flow would reduce the amount of overland flow across the adjacent residential properties to the east of the site.

- i. <u>Stormwater Management Plan</u> The stormwater management plan has been developed and will be implemented so that the quantity and quality of runoff during and after development are not significantly altered from preconstruction conditions. Its primary objectives are to avoid causing downstream flooding and flood damage and to employ all means that are practicable to mitigate increases in stormwater pollutant loads that will occur as a result of the project.
 - (1) <u>Stormwater Quantity</u> A detailed analysis of the redevelopment project's pre- and post-stormwater quantity conditions is presented in Section 3, Stormwater Management Report, prepared by Divney Tung Schwalbe, LLP.

¹ Chapter 9: Redevelopment Projects, New York State Stormwater Management Design Manual, August 2010, page 9-1.

1 - 4

(2) <u>Stormwater Quality</u> – A detailed analysis of the project's pre- and post-stormwater quality conditions is presented in Section 3, Stormwater Management Report, prepared by Divney Tung Schwalbe, LLP.

(3) Maintenance of Temporary and Permanent Structures and Practices

- (a) Temporary Temporary structures and practices, as described in the Erosion & Sediment Control Plan drawings, will be installed and maintained through the duration of the project's construction. As required by the General Permit, structures and practices located in disturbed areas of the site will be inspected by a qualified individual at least every seven days or before weekends. Areas of the site that have been finally stabilized will be inspected at least every month until the entire site has been finally stabilized. Following each inspection, a certified inspection report will be completed. Based on the results of the inspections, appropriate revisions to the SWPPP and its implementation will be completed within seven calendar days following the inspection. Appendix D of this SWPPP includes a blank inspection report form to be used to complete the inspections and report. Completed reports will be added to Section 6 and retained as part of this SWPPP.
- (b) Permanent Permanent structures and measures implemented to control the project's quantity and/or the quality of the stormwater will require regular inspections and maintenance. These include permanent erosion control practices (soil stabilization), water quality control practices, and related stormwater flow controlling structures (drain inlets, catch basins, etc.). Table 1 identifies the frequency with which inspections of stormwater management measures should occur and the extent of maintenance required. The project operator will be responsible for inspecting and maintaining permanent stormwater management structures and practices.

(c) <u>Maintenance Schedule</u> - In accordance with the NYSDEC requirements, regular maintenance of the site infrastructure will be performed by the property management firm and personnel. Routine monthly and quarterly inspection of the site will be made to ensure the property is kept in good physical order. Stormwater management inspections and maintenance of permanent structures will be performed on a regular basis as is outlined in the following table or as required after a significant storm event.

Table No. 1 Stormwater Management Inspections & Maintenance of Permanent Structures

Structure	Min. Inspection	Conditions to	Maintenance
Or Practice	Frequency	be Identified	Required
Paved Areas	Quarterly	Pavement Damage	Repair or repave; Remove sand
Vegetated Areas	Semi-Annually	Erosion	Regrade & vegetate as necessary
Drainage Pipes	Annually	Debris Accumulation	Remove debris when cross-sectional area of pipe is reduced by 10% or $+$
Catch Basins, Inlets & Manholes	Semi-Annually	Sediment Accumulation	Remove sediment min. of 2x year or when storage reduced by 10% or +
Bioretention/ Rain Garden	Semi-Annually	Sediment Accumulation	Remove sediment min. of 2x year or when storage reduced by 10% or +

ii. Project Permits and Approvals

Procedures and requirements specified for this project shall comply with all requirements applicable to protecting surface water and groundwater.

- (1) Permits and Approvals Granted
 - (a) None
- (2) Permits and Approvals Being Sought
 - (a) Town of Harrison
 - (i) Site Plan Approval
 - (ii) Building Permit
 - (b) Westchester County Department of Health
 - (i) Water Supply Backflow Devices
 - (c) New York State Department of Environmental Conservation
 - (i) General Stormwater SPDES Permit

2. CONSTRUCTION ACTIVITY DESCRIPTION

a. Project Operator

The Project Operator is required to comply with all conditions of the NYSDEC General Permit GP 0-10-001. The Project Operator will be responsible for the maintenance of the permanent stormwater structures.

Trinity Presbyterian Church

15 Elm Place

Rye, New York 10580

b. Project Contractors

All contractors and subcontractors associated with the project must comply with the terms of the SWPPP. The construction manager and designated subcontractor will be responsible for the installation and maintenance of all temporary stormwater and erosion control. They will be responsible for the installation of the permanent stormwater measures and the maintenance during construction.

i. Construction Manager: To be determined

ii. Earthwork/Sitework: To be determined

c. <u>Project Engineers</u>:

The Design Engineer is responsible for the development of the Stormwater Management Report and Stormwater Pollution Prevention Plan as required by the NYSDEC General Permit GP 0-10-001. The Field Engineer is responsible for conducting inspections and maintaining the SWPPP as required in the SWPPP and the NYSDEC General Permit GP 0-10-001.

Design Engineer:

Divney Tung Schwalbe, LLP

One North Broadway, Suite 1407

White Plains, NY 10601

<u>Field Engineer</u>: To be determined, will be present during installation of proposed stormwater facilities.

d. Construction Program

i. Project Construction Phasing

The redevelopment project construction is expected to be completed in a single phase.

ii. Construction Activities

Construction initiation and completion dates have yet to be established, but are anticipated to begin in the Spring of 2015. Site construction activities are planned to be completed in less than two years. The project will maintain a construction sequence as outlined below:

(1) Site Preparation and Erosion Control

Prerequisite to begin activities: All approvals obtained to include NYSDEC SPDES coverage. Conduct a preconstruction meeting with owner's representative, site engineer, general contractor, site contractor, and town engineer or representative.

- (a) Installation of temporary fencing, dewatering measures and perimeter erosion and sediment control devices
- (b) Setup of staging areas
- (c) Ensure stabilized construction entrance with chain-link fence
- (d) Clear and grub sediment trap

(2) Site Clearing

Prerequisite to begin activities: Complete installation of sediment trap, perimeter silt fence, and construction entrance.

(a) Disconnect Existing Utilities

- (b) Begin building demolition
- (c) Tree clearing
- (d) Remove stumps and grub
- (e) Excavate and stabilize construction roads
- (f) Install Temporary Utilities for Construction

(3) Mass Grading

Prerequisite to begin activities: Stabilize construction staging area.

- (a) Earthwork cut to fill.
- (b) Install fill sections at building site and parking areas.
- (c) Excavate building foundations

(4) Building Construction and Utilities

Prerequisite to begin activities: Complete mass grading.

- (a) Continue building construction
- (b) Remove existing utilities
- (c) Commence with on-site utility installation
- (d) Install curbs and sidewalks
- (e) Install asphalt base course

(5) Paving and Landscaping

Prerequisite to begin activities: All utilities installed. Asphalt base course installed.

- (a) Continue building interior
- (b) Remove all silt and collected debris from temporary measures
- (c) Install asphalt top coat
- (d) De-compact soil as required
- (e) Install landscaping
- (f) Topsoil and seed all landscaped areas
- (g) Project site work complete, final site stabilization achieved
- (h) Remove erosion and sediment control barriers

Additional information regarding phasing of construction activities is provided on the Erosion and Sediment Control drawings.

e. Erosion and Sediment Control

Erosion and sedimentation related impacts will be minimized by controlling runoff and minimizing erosion, and by collecting suspended sediment before it leaves the site. Clean runoff will be diverted away from disturbed areas and sediment laden runoff will be directed to sediment traps and/or catch basins with inlet protection. Only those areas under construction will be opened and exposed. Disturbed areas will be stabilized preceding storm events and/or immediately following construction activities in the area. Suspended sediment in runoff will be filtered and/or settled out via silt fence, sediment trap and other measures.

Erosion and sediment control for the redevelopment project shall be implemented as specified on the Erosion and Sediment Control Plan drawings.

f. Dewatering

Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches. Continuously monitor and maintain dewatering operations to ensure erosion control, stability of excavations and constructed slopes. No pumping or dewatering into the public storm sewer main without pre-filtering as approved by the Town of Harrison.

g. Colloidal Soils

In the event that colloidal soils are encountered during construction that cannot be settled out through typical erosion control measures, the sediment trap outlets will be modified to allow manual operation. Stormwater runoff will be retained in the sediment traps to allow the colloidal soils to settle out. Prior to forecasted storm events, the retained stormwater will be released at a controlled rate through a filter to provide capacity for the next storm. Flocculants may not be used without prior approval from the NYSDEC and the County.

h. Construction Refuse Control

All contractors working on the site will provide adequate trash containment services for the construction site at the start of work to maintain a clean, debris-free work area. Typical facilities may be covered containers with openings three inches or smaller or approved equal, and will be emptied on a regular basis. Refuse will be removed from site via solid-waste contractor and be recycled or disposed per Federal, State and local requirements. Refuse will not be disposed on site.

i. List of Drawings

The following is a list of the contract drawings that are made part of these documents.

	Cover Sheet
	Boundary and Topographic Survey
SP-1	Site Layout Plan
SP-2	Site Grading & Utility Plan
SP-3	Conceptual Landscape Plan
SP-4	Conceptual Lighting Plan
SP-5	Conceptual Erosion & Sediment Control Plan



TRINITY PRESBYTERIAN CHURCH HARRISON, NEW YORK

STORMWATER MANAGEMENT REPORT

Prepared for:

TRINITY PRESBYTERIAN CHURCH
15 Elm Place
Rye, New York 10580

Prepared By:

DIVNEY TUNG SCHWALBE, LLP One North Broadway, Suite 1407 White Plains, New York 10601

> June 26, 2014 Revised August 26, 2014

TRINITY PRESBYTERIAN CHURCH TOWN OF HARRISON, NEW YORK

STORMWATER MANAGEMENT REPORT

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TRINITY PRESBYTERIAN CHURCH TOWN OF HARRISON, NEW YORK

STORMWATER MANAGEMENT REPORT

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I. REPORT



Introduction

The following Stormwater Management Report has been designed to assess the potential stormwater management impacts anticipated with the construction of the Trinity Presbyterian Church proposed in the Town of Harrison, New York. The overall site plan has been evaluated and quantified in terms of stormwater runoff associated with on-site stormwater discharge. This stormwater management analysis has been prepared to be in conformance with the NYSDEC SPDES General Permit GP-010-001 requirements for stormwater quantity and quality control, including runoff reduction requirements to mimic existing infiltration conditions.

The project site is currently occupied by a single-family residence and accessory uses along Anderson Hill Road. Portions of the existing developed areas will be redeveloped in order to minimize the extent of disturbance within the site's vegetated buffer areas. This will be accomplished by adaptively reusing the existing residence and constructing a connecting sanctuary addition immediately adjacent, with flanking parking and landscaped areas. The proposed stormwater management design treats existing impervious areas to be disturbed as redevelopment areas and newly developed impervious areas as new construction. It is estimated that approximately 1.6 acres of new impervious area will be added.

The site contains two existing discharge points (DP) located at water courses to the west and east of the property. Stormwater runoff from the proposed redeveloped sub-watershed areas will continue to flow from the site in a manner similar to existing drainage patterns, although on-site proposed stormwater management areas will be piped to a new catch basin proposed in Anderson Hill Road, approximately 280 linear feet upstream of an existing catch basin in the road. The location of the site's discharge points will remain the same, with the sub-watersheds being further subdivided where development is proposed. The delineations of the other sub-watersheds will remain similar to existing conditions.

In order to meet the minimum runoff reduction volume (RRv) requirements of the NYSDEC Design Manual, a series of green infrastructure measures are proposed to treat runoff near its source. Bioretention/rain gardens are proposed to provide RRv reduction. The general hydrologic soils



group (HSG) is type C. These proposed measures also meet the water quality volume (WQv) requirements.

The detention capacity of the proposed bioretention areas, designed in accordance with the NYSDEC New York State Stormwater Management Design Manual (NYSSMDM, August 2010), have been included in the hydraulic model of the proposed project. The peak rates of runoff from the developed site at each discharge point are calculated to be less than or equal to the peak rates under existing conditions for all storm events up to and including the 100-year storm event frequency.



A. Project Stormwater Jurisdictions

The site is located in the Town of Harrison, New York within the Blind Brook Basin and ultimately discharges into two existing water courses to the west and east of the site. Along with the Town of Harrison, the New York State Department of Environmental Conservation (NYSDEC) has jurisdiction over stormwater measures at the site.

The project site is located within the Town of Harrison Municipal Separate Storm Sewer System (MS4), and as part of the Draft Environmental Impact Statement (DEIS), the applicant is required to prepare and submit a preliminary draft Stormwater Pollution Prevention Plan (SWPPP) for the MS4's review and approval prior to requesting coverage under the NYSDEC State Pollution Discharge Elimination System (SPDES) General Permit (GP-0-10-001) for Stormwater Discharges Associated with Construction Activity.

B. Project Description

The existing project site is currently occupied by a single-family residence and accessory uses along Anderson Hill Road. The proposed Trinity Presbyterian Church project proposes to redevelop the existing site while proposing new construction to allow for an attached sanctuary and associated parking. The main stormwater management goal of the development of the site is to maintain the general drainage patterns of the existing site while "correcting existing problems and reduce pollutant discharges from older developed areas that were constructed without effective stormwater pollution controls." Refer to the attached graphic, DEIS Figure No. II.C-1, Location Map.

The site contains two discharge points (DP) to the southwest and southeast of the site at existing water courses. Stormwater runoff from the proposed redeveloped sub-watershed areas will ultimately discharge to the same discharge points under existing conditions, though the majority of the disturbed portion of the site will be directed to a proposed 280 linear foot drainage system in Anderson Hill Road. The proposed catch basin and storm piping would connect to the existing system in Anderson Hill Road, located west of the driveway at 548

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¹ Chapter 9: Redevelopment Projects, New York State Stormwater Management Design Manual, August 2010, page 9-1.



Anderson Hill Road. The diversion of flow would reduce the amount of overland flow across the adjacent residential properties to the east of the site.

The location of the site's discharge points will remain the same, with the sub-watersheds being further subdivided where development is proposed.

1. Existing Conditions

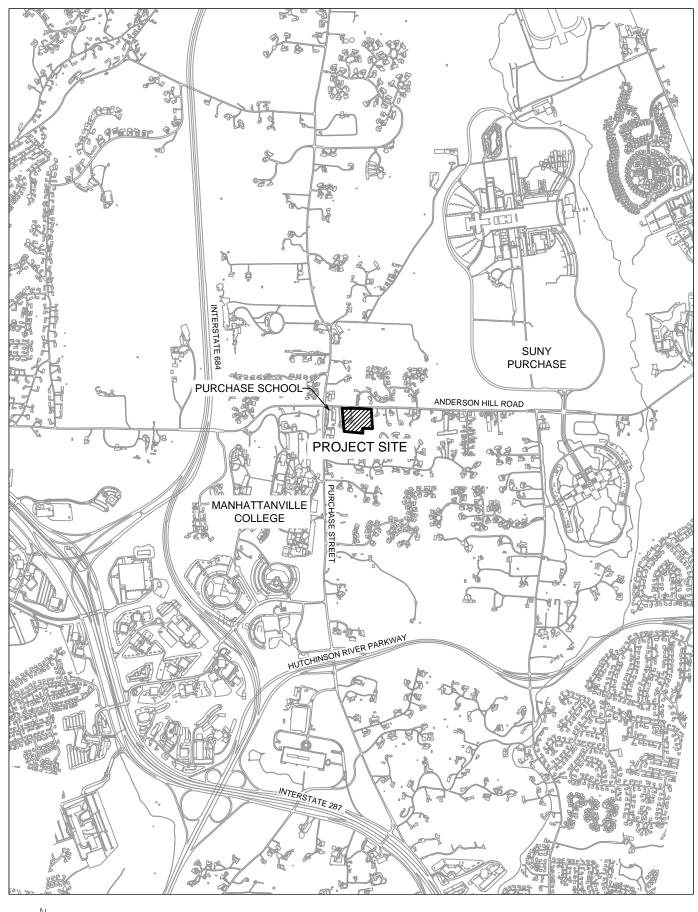
The project site is 6.46 acres and the study watershed area, which includes adjacent right-of-way and neighboring properties, is approximately 7.02 acres. The portion of the site that is currently developed is comprised of a single-family residence and accessory uses.

Approximately 0.52 acres within the project's estimated 4.68 acre limit of disturbance area is impervious, with a total of approximately 0.87 acres impervious area existing within the study watershed (drainage area extending past disturbance area and property lines).

Stormwater runoff is currently conveyed via overland flow to existing water courses west and east of the site. See Figure No. SWM-1 Existing Drainage Conditions and Table No. 1 Existing Drainage Conditions.

2. Developed Conditions

The Trinity Presbyterian Church Project will include the development of a new sanctuary, renovated house and associated surface parking, and will contain both redevelopment and new construction. The project will minimize the extent of site disturbance by concentrating the proposed work to the center of the site which help maintain existing landscape buffers and will also avoid proposed work adjacent to existing residential areas. Approximately 2.18 acres within the project's limit of disturbance area are proposed to be impervious, with a total of approximately 2.53 impervious acres proposed within the study watershed. It is estimated that of the proposed 2.18 acres of impervious area within the project's limit of disturbance, approximately 0.52 acres will be redevelopment (existing impervious area) and 1.66 acres (the net increase from existing to developed conditions) will be new construction. Refer to Figure No. SWM-2 *Proposed Drainage Conditions* and Table No. 2 *Developed Drainage Conditions*.





LOCATION MAP



TABLE NO. 1

TRINITY PRESBYTERIAN CHURCH PURCHASE, NEW YORK

EXISTING DRAINAGE CONDITIONS

/Gams dat vax	,	AREA (AC) (1)		(2)	(2)	(3)	(4)	(4)	DESIGN
SUBBASIN ID	IMPERVIOUS IMP. TOTAL		TOTAL AREA	(%)	Ŗ	CN	Tc (HRS)	Tt (HRS)	POINT #
A	0.31	3.94	4.25	7.3	0.20	74	0.27	80.0	1
B	0.00	0.40	0.40	0.0	0.20	73	0.17	0.08	Π
O	0.16	1.59	1.75	9.2	0.20	75	0.30	!	2
Q	0.40	0.22	0.62	63.9	0.63	68	90.0	0.03	1
TOTAL AREA	0.87	6.15	7.02						

6.46; Impervious area w/in PL(ac)= 1. Area based on watershed evaluation. Area w/in PL (ac)=

0.52

I=Percent Impervious, (Impervious Area/Total Area)*100%; R_v = 0.05+0.009(I), Minimum Rv=0.2
 CN=Curve Number
 Tc=Time of Concentration, Tt=Travel Time

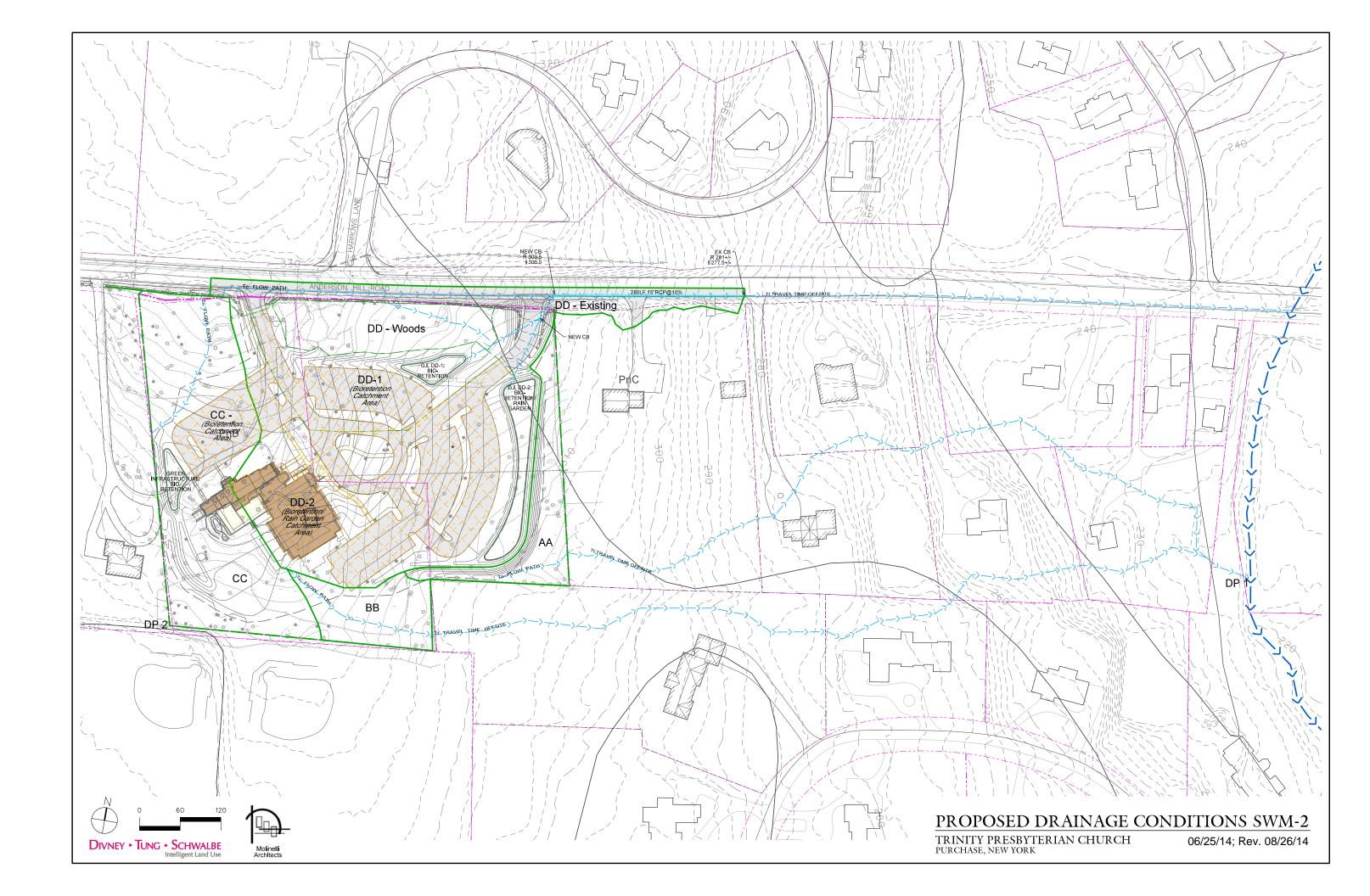


TABLE NO. 2

TRINITY PRESBYTERIAN CHURCH PURCHASE, NEW YORK

DEVELOPED DRAINAGE CONDITIONS

Agen services		AREA (AC) (1)		(2)	(2)	(3)	(4)	(4)	DESIGN
SUBBASIN ID	IMPERVIOUS IMP. TOTAL	PERVIOUS	TOTAL AREA	(%)	$\mathbf{R}_{\!\scriptscriptstyle \mathrm{V}}$	CN	Tc (HRS)	Tt (HRS)	POINT #
				_					
AA	0.00	0.45	0.45	0.0	0.20	73	0.26	0.08	1
BB	0.00	0.38	0.38	0.0	0.20	73	0.18	0.08	1
သ	0.07	1.40	1.47	5.1	0.20	74	0:30		2
CC - Bioretn/RG	0.24	0.04	0.28	86.1	0.83	95	0.08		2
DD - Ex	0.46	0.29	0.76	61.0	09.0	68	0.08	0.03	1
DD - Woods	0.00	0.50	0.50	0.0	0.20	72	0.30		1
DD-1 Bio/RG Pkg	0.41	0.35	0.75	53.7	0.53	87	0.08		1
DD-2 Bio/RG Pkg	1.35	1.07	2.42	55.7	0.55	87	0.08		1
TOTAL AREA	2.53	4.49	7.02						

^{1.} Area based on watershed evaluation. Area w/in PL (ac) = 6.46; Impervious area w/in PL(ac) = 2. I=Percent Impervious, (Impervious Area/Total Area)*100%; R_v = 0.05+0.009(I), Minimum Rv=0.2

2.18

^{3.} CN=Curve Number
4. Tc=Time of Concentration, Tt=Travel Time



3. Redevelopment Project Criteria

The NYSDEC New York State Stormwater Management Design Manual, August 2010, encourages the redevelopment of previously developed sites and defines and outlines the criteria of a redevelopment project, which would allow for the use of alternative approaches as opposed to standard design practices. Section 9.3.1 Application Criteria specifies:

- (1) An existing impervious area is disturbed and then reconstructed as either a pervious or impervious surface, and
- (2) There is inadequate space for controlling stormwater runoff from the reconstructed area, **OR**
- (3) The physical constraints of the site do not allow meeting the required elements of the standard practices.

Existing impervious areas of the site to be disturbed as part of the Trinity Presbyterian Church project will be considered redevelopment because approximately 0.52 acres of existing impervious areas are disturbed and then reconstructed as either pervious or impervious surfaces; thereby meeting Criteria 9.3.1 (1).

In order to both minimize disturbance and preserve existing buffer, there is inadequate space for controlling stormwater runoff with traditional standard stormwater management measures from the reconstructed areas; thereby meeting Criteria 9.3.1 (2) for redevelopment as outlined in Section 9.3.1 of the Manual. Specifically, in order to preserve portions of the site's vegetated buffers and to minimize disturbance adjacent to residential areas, insufficient area exists for the use and placement of most standard stormwater management measures without impacting wetland buffers.

By meeting Criteria 9.3.1 (1) and 9.3.1 (2), the existing impervious areas of the site to be disturbed can be determined to be redevelopment areas

In this report, existing impervious areas that will be disturbed will be considered redevelopment areas and increases in impervious area will be treated as new construction requiring the implementation of green infrastructure measures and/or standard design practices. Within an approximately 4.68 acre limit of disturbance, the impervious area that



will be developed under the redevelopment stormwater criteria is approximately 0.52 acres and the impervious area to be developed under the standard design methodology is approximately 1.66 acres.

C. Stormwater Quality

The proposed Trinity Presbyterian Church Project has been designed consistent with the New York State Stormwater Management Design Manual (NYSSMDM, August 2010), thereby complying with the NYSDEC SPDES General Permit GP-0-10-001 requirements for water quality treatment. The following is an outline of the NYSDEC Five-Step Stormwater Management Planning Process that was employed for the project.

1. NYSDEC Five-Step Stormwater Management Planning Process:

- 1) Site Planning (Minimize & Reduce Stormwater Impacts)
 - a) Renovating Existing House
 - b) Preserving Existing Buffers at Property Boundaries
 - c) Limit of Disturbance Minimized
 - d) Adjacent Property (Residential) Impacts Minimized
- 2) Water Quality Volume (WQv) Calculation
 - a) WQv = 90% frequency storm event runoff
 - b) P 90% = 1.3 inches
- 3) Green Infrastructure Techniques & Standard SMPs (Manage the Impacts)
 - a) Stormwater Measures with Runoff Reduction Volume (RRv) Capacity
 - b) Green Infrastructure Technique: Bioretention/Rain Gardens
- 4) Stormwater Management Practices (SMPs) for Remaining WQv
 - a) Green Infrastructure Techniques meet Remaining WQv requirements
- 5) Detention Volume and Peak Rate Control Practices up to 100-yr Storm Event
 - a) Green Infrastructure Techniques meet Detention Volume and Peak Rate Control Requirements



2. Runoff Reduction Volume (RRv)

Under the NYSDEC General Permit GP-0-10-001, upstream adjuncts, referred to as green infrastructure runoff reduction measures, are required within each disturbed sub-watershed to treat a portion of stormwater runoff at the source and to allow for infiltration upstream of proposed standard SMP practices, if necessary. The Runoff Reduction Volume (RRv) is calculated to be the total developed water quality volume for new construction. Though encouraged where feasible, RRv for redevelopment areas is not required.

When meeting 100% RRv is not feasible, the NYSDEC New York State Stormwater Management Design Manual allows for the application of a Specified Reduction Factor (S) to be applied, correlated to the Hydrologic Soil Group (HSG) classification. For HSG C, S is equal to 0.30. Refer to Table No. 3 *Stormwater Quality Management Measures* for water quality volume and runoff reduction estimates summarized by both redevelopment (existing impervious areas) and new construction (increases in impervious areas).

In an effort to meet the minimum RRv requirements of the NYSDEC Design Manual, a series of green infrastructure measures, bioretention/rain gardens, are proposed to treat runoff at the source.

According to the Design Manual, projects that cannot provide 100% RRv must provide justification for the specific project limitations to allow for the use of the calculated minimum RRv values. The following is an outline of the justifications:

- 1. Preserving on-site trees and buffers
 (Preservation of Undisturbed Areas; Reduction of Clearing and Grading)
- 2. Minimizing impacts to the adjacent existing residential neighborhoods (Locating Development in Less Sensitive Areas)
- 3. Providing project density to support proposed utility infrastructure



3. Water Quality Volume (WQv)

Stormwater management measures have been proposed such that the post-developed conditions of the site generally maintain the current hydrology of the site. Proposed green infrastructure techniques help meet the required water quality volume to be detained and treated.

4. Stormwater Pollutant Removals

The stormwater management design for the Trinity Presbyterian Church Project has been proposed to be consistent with the guidelines of the NYSDEC New York State Stormwater Management Design Manual. Though there are no formal pollutant removal rates provided for the any of the NYSDEC standard management practices or green infrastructure measures, the Manual clarifies that if the practice is designed per their guidelines it would meet pollutant removal goals².

Bioretention/rain gardens will provide pollutant removal capacity. The Manual states that these are an effective measure for pollutant treatment for solids, metals, nutrients and hydrocarbons³. The combination of bioretention/rain gardens will capture the stormwater runoff from the newly created impervious areas at the project site.

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² As stipulated on page 3-7 of the NYSDEC New York State Stormwater Management Design Manual, August 2010, "Practices [] will be presumed to meet water quality requirements set forth in this manual if designed in accordance with the sizing criteria presented in Chapter 4 and constructed in accordance with the performance criteria in Chapter 6."

³ New York State Stormwater Management Design Manual, August 2010, Chapter 5 page 5-115.

TRINITY PRESBYTERIAN CHURCH PURCHASE, NEW YORK

STORMWATER QUALITY MANAGEMENT MEASURES

ON-SITE SUMMARY

8,707	TOTAL WQv PROVIDED 8,707	TAL WQv I	TC		8,259	TOTAL WQv REQUIRED 8,259							
		67%				25%WQv 75%WQy							CAMPUS
3,715	3,267	4,992	2,228	7,428	7,428	831 OR 2,493	10,361	0.30	0.47	4.68	2.18	0.52	CHURCH
						GI/SMP Alt SMP							PROPOSED
(cft)	(cft)	(cft)	(cft)	(cft)	New Const	Ex Imp	(cft)			(ac)	(ac)	(ac)	
GI Meas	nedmited	GI Meas	RRv 100% Req'd GI Meas	RRv~100%		regeveropment (c1)	Standard			LOD A		TWIT	
Provided	Description	Provided	New Const Min RRv Provided	New Const	10	(Jr.) + moment complete to	8118			TOTAL	T	TATE	CALC
d WqV After RRv	Adjusted WqV After RRv	ume RRv ⁹	Runoff Reduction Volume RRv ⁹	Runoff Re		WQv		S ⁷	${\bf R}_{\bf v}^4$	PROPOSED AREA		EX AREA	ATTV-NO

REDEVELOPMENT SELECTION PRACTICES

STORMWATER MANAGEMENT	S.A.	RRv	Add'l WOv
MEASURE	(sf)	(cf)	(ct)
Green Infrastructure Measure:			
Rain Garden	8,320	4,992	3,715
TOTAL	8,320	4,992	3,715
		8,7	8,707

based on redevelopment and new construction.
and n
pment
redevelo
on
based
Quality b
1.Stormwater (

NOTES

2. Design per New York State Stormwater Management Design Manual, August 2010.

3. I=Impervious Cover (%)

4. Rv = 0.05+0.009(I), Minimum Rv=0.2

5. P=90% Rainfall Event Number

(See Figure 4.1, NYSSMDM, August 2010) 6. P (in) =

7. S=Hydrologic Soil Group (HSG) Specific Reduction Factor 8. Standard WQv=[(P)(Rv)(A)]/12

9. Runoff Reduction Vol, RRv=[(P)(Rv*)(Ai)]/12; per NYSSMDM Chapter 9, meeting RRv is not required for redevelopment projects, but encouraged.

10. Redevelopment WQv: Redevelopment WQv: 25% Ex WQv using NYSDEC Standard Measur or GI RRv Measures or 75% Ex WQv using NYSDEC Alternative Measures

+ 100% WQv of Increased Impervious Area.

(£)
dt)
(hf +
[k x
/(Jp)
) X A
-WQ
: Af=
Area
retention
/Bio
ırden
ß
Rain
٦.

	0.5	1.0		1.4
	Ponding Depth:	Filter Tim		Equivalent Depth:
0.5	2.5	0.2	1.00	0.4
k=(ft/d)	depth	porosity	depth	porosity
Egr Soil: $k=(ft/d)$			Gravel:	

SWM	Surt Area	Stor Vol	KKV	Avail Voi	AddT	Catchment	
Measure	(sf)	(cf)	(cf)	(cf)	WQv (cf)	Area (sf)	
Bio/RG CC-1	930	1,302	822	744	230	10,575	_
Bio/RG DD-1	1,490	2,086	894	1,192	886	17,800	_
Bio/RG DD-2	5,900	8,260	3,540	4,720	2,246	56,225	
	8,320		4,992		3,715	84,600	



D. Stormwater Quantity

By designing the project site to the guidelines outlined in the Design Manual, the proposed stormwater management measures will mitigate stormwater runoff impacts by providing channel protection, and overbank flood and extreme storm protection. The peak rates of flow for all storm events up to and including the 100-year storm event will be at or below existing conditions. Refer to Table No. 4 *Design Flow Summary* for reference.

1. FEMA Flood Zones

The Trinity Presbyterian Church project site nor its proposed limit of disturbances are located in a FEMA 100-year or 500-year flood zone. As the proposed on-site green infrastructure improvements will provide detention, channel protection and flood control, no downstream flood plain impacts are anticipated.

2. Stormwater Detention

Due to the available detention capacity in the proposed bioretention/rain gardens, no additional detention required to meet the General Permit GP-0-10-001 requirements as outlined in the Design Manual.



E. Erosion & Sediment Control

As described in the NYSDEC New York State Stormwater Management Design Manual, in order to protect the waters of the State of New York from adverse impacts of urban stormwater runoff, the typical objectives of stormwater management in redeveloped and newly developed areas include reducing the potential of flooding, flood damage, erosion, and water quality degradation.

The following are proposed temporary and permanent stormwater management measures that are NYSDEC accepted methods and are designed to address these objectives.

1. Temporary Erosion & Sediment Control Measures

During construction practices, the objective of stormwater management is to minimize soil and sediment leaving the site. The following methods are proposed to achieve this goal:

- Limit and control the exposure of soil to the extent that can be managed.
- Install silt fencing, hay bales, inlet protection, sediment traps, swales, berms, energy dissipaters, wheel wash down areas, anti-tracking pads, mulching and seeding. These methods will be regularly maintained and periodically inspected.
- Divert offsite stormwater runoff.
- Meet NYSDEC New York State Standards and Specifications for Erosion and Sediment Control requirements.

The NYSDEC General Permit GP-0-10-001 has limitations on the extent of soil disturbance to be no more than five acres maximum at any one time, without prior written approval from the municipality, the operators of a NYSDEC regulated Municipal Separate Storm Sewer Systems (MS4s). Each disturbed area must be temporarily or permanently stabilized with vegetative or manufactured measures before disturbing another area. As the estimated limit of disturbance area is approximately 4.68 acres, it is not anticipated that the limit of disturbance would exceed five acres.

TABLE NO. 4

TRINITY PRESBYTERIAN CHURCH PURCHASE, NEW YORK

DESIGN FLOW SUMMARY

NOISAG	i.	1-YEAR	2-	2-YEAR	ιĠ	5-YEAR	10	10-YEAR	25	25-YEAR	3 0	50-YEAR	100	100-YEAR
POINT NO.	SW Flow (CFS)	SW Flow Runoff Volume SW Flow Runoff Volume (CFS) (CFT) (CFS) (CFT)	SW Flow (CFS)		SW Flow CFS)	Runoff Volume (CFT)	SW Flow (CFS)	Runoff Volume (CFT)	SW Flow (CFS)	Runoff Volume (CFT)	SW Flow (CFS)	SW Flow Runoff Volume CFS) (CFS) (CFS) (CFS) (CFS) (CFS) (CFS) (CFS) (CFS) (CFS)	SW Flow (CFS)	Runoff Volume (CFT)
Westchester County Rainfall (IN) (1)		2.8		3.5		4.5		5.0		6.0		7.0		7.5
Existing	3.5	17,032	5.6	26,136	8.9	40,598	10.6	48,264	14.2	64,251	17.9	80,934	19.8	89,429
Developed	1.7	15,638	3.3	26,615	7.4	43,168	8.9	51,706	11.4	69,173	13.6	686,98	14.6	900,96
Delta	-1.8	-1,394	-2.3	479	-1.5	2,570	-1.8	3,441	-2.9	4,922	-4.4	6,055	-5.2	6,578
Existing		5.271	8	8.276	2.8	13.024	4.8	15.551	4.6	20.865	νς ∞	26.354	4.9	29.185
Developed	6.0	5,097	1.6	8,233	2.6	13,155	3.1	15,725	4.2	21,127	5.2	26,702	5.7	29,577
Delta	-0.2	-174	-0.2	44-	-0.2	131	-0.3	174	-0.4	261	-0.6 -10%	348	-0.7	392

⁽¹⁾ Westchester County Rainfall, NYSDEC Amendment NY-1, November 7, 1990, page 2-14.5

GREEN INFRASTRUCTURE - BIORETENTION/RAIN GARDEN SUMMARY

	$SV^{(2)}$	0.08	0.12	0.50
100-YEAR				
10	$\mathbf{HWE}^{(1)}$	325.89	320.47	316.63
10-YEAR	${ m SV}^{(2)}$	0.05	0.08	0.32
10	$\mathbf{HWE}^{(1)}$	325.25	319.76	315.75
2-YEAR	$\mathrm{SV}^{(2)}$	0.04	90.0	0.23
2-	$\mathbf{HWE}^{(1)}$	324.76	319.24	315.24
1-YEAR	${ m SV}^{(2)}$	0.03	0.05	0.21
i i	$\mathbf{HWE}^{(1)}$	324.58	319.10	315.09
OUTLET CONTROL	KISEK FIFE	4" DIAM; 324.5' EL.	8" DIAM; 319.0' EL.	12" DIAM; 315.0' EL.
BERM ELEV.		326.50	321.50	317.50
BASE ELEV.		324.00	318.50	314.50
OI NISV	BA	CC	DD-I	DD-3

⁽¹⁾ High Water Elevation (Feet) (2) Storage Volume (Acre Feet)



2. Maintenance of Permanent Erosion & Sediment Control Measures

In accordance with the NYSDEC and Town requirements, regular maintenance of the site infrastructure will be performed by the property management firm and personnel. Routine monthly and quarterly inspection of the site will be made to ensure the property is kept in good physical order. Stormwater management inspections and maintenance of permanent structures will be performed on a regular basis as is outlined in the following table or as required after a significant storm event.

Table No. 5 Stormwater Management Inspections & Maintenance of Permanent Structures

Structure	Min. Inspection	Conditions to	Maintenance
Or Practice	Frequency	be Identified	Required
Paved Areas	Quarterly	Pavement Damage	Repair or repave; Remove sand
Vegetated Areas	Semi-Annually	Erosion	Regrade & vegetate as necessary
Drainage Pipes	Annually	Debris Accumulation	Remove debris when cross-sectional area of pipe is reduced by 10% or +
Catch Basins, Inlets & Manholes	Semi-Annually	Sediment Accumulation	Remove sediment min. of 2x year or when storage reduced by 10% or +
Bioretention/ Rain Garden	Semi-Annually	Sediment Accumulation	Remove sediment min. of 2x year or when storage reduced by 10% or +



F. Summary

This Stormwater Management Report has been prepared to address changes to the stormwater characteristics of the existing site that would result from the proposed project. The currently designed proposed Trinity Presbyterian Church stormwater management layout has been designed to be compliant with the NYSDEC SPDES General Permit GP-010-001 requirements for stormwater quantity and quality control.

The proposed Trinity Presbyterian Church project treats existing impervious areas to be disturbed and newly developed impervious areas and manages all discharge points to ensure stormwater rates of runoff are less than or equal to existing conditions for all storm events up to and including the 100-year frequency. In addition, TSS, TP and TN pollutant removals will be accomplished through the use of bioretention/rain gardens. The combined results of maintaining or reducing peak runoff rates and providing pollutant removals will prevent the potential of cumulative impacts of development on stormwater management facilities within the downstream corridor.

II. APPENDIX



TRINITY PRESBYTERIAN CHURCH HARRISON, NEW YORK

STORMWATER MANAGEMENT REPORT APPENDIX

Prepared for:

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> June 26, 2014 Revised August 26, 2014

A.METHODOLOGY

A. METHODOLOGY

1. Zero Increase in Watershed Peak Runoff

In accordance with standard development practices, the peak rate of stormwater discharge from the site after the completion of development shall not exceed the estimated predevelopment peak discharge.

2. Storm Frequencies

The storm frequencies to be used as a basis for computing peak rate of discharge shall be storms expected once every 1, 2, 5, 10, 25, 50 and 100 years with a duration of 24 hours as defined by the U.S. Department of Agriculture Soil Conservation Service.

3. Technical Approach

The method used for estimating peak discharge shall be as per the document released by the Engineering Division of the U.S. Department of Agriculture Soil Conservation Service titled "Urban Hydrology for Small Watersheds", Technical Release No. 55, dated June 1986, Type III Storm Distribution. This criterion governs the data that is input into the software, namely the Haestead Methods Quick TR-55 computer program. A summary of the flows under existing and proposed conditions is provided. The complete input and output data is available upon request.

4. Soil Classifications

The soil classifications and their limits were provided from mapping compiled by the U.S. Department of Agriculture Soil Conservation Service.

5. <u>Detention Requirements</u>

The continuity equation and level pool reservoir routing methods¹ are used to route watershed inflow hydrographs through the stormwater management measures. The measures have been designed with gentle slopes so that NYSDEC approved plant cover can be maintained consistent with the existing landscape.

6. Rainfall Intensity

Frequency and intensities, which have been used in this report, are as follows:

WESTCHESTER COUNTY

RAINFALL INTENSITY BY STORM FREQUENCY²

Storm	Rainfall Intensity
Frequency	(24-Hour Period)
Year	(Inches)
100	7.5
50	7.0
25	6.0
10	5.0
5	4.5
2	3.5
1	2.8

-

¹ Soil Conservation Service, *Technical Release* – 55, 1986, Chapter 6.

² Westchester County Rainfall, NYSDEC

B. SUMMARY TABLES

APPENDIX TABLE NO. 1

TRINITY PRESBYTERIAN CHURCH PURCHASE, NEW YORK

EXISTING CONDITIONS CURVE NUMBER COMPUTATIONS

WEIGHTED	CN	80	72	74	74	72	73	78	72	75	06	72	68
REA	A x CN	6.69	215.8	285.7	18.8	10.2	29.0	57.7	58.5	116.2	14.1	2.4	16.5
PERVIOUS AREA	CN 2	74	72		74	72		74	72		74	72	
PERV	AREA (AC)	0.95	3.00	3.94	0.25	0.14	0.40	0.78	0.81	1.59	0.19	0.03	0.22
AREA	A x CN	30.4	0.0	30.4	0.0	0.0	0.0	15.9	0.0	15.9	38.8	0.0	38.8
IMPERVIOUS AREA	CN^{5}	86	86		86	86		86	86		86	86	
IMPER	AREA (AC)	0.31	0.00	0.31	0.00	0.00	0.00	0.16	0.00	0.16	0.40	0.00	0.40
TOTAL	(AC)	1.26	3.00	4.25	0.25	0.14	0.40	0.94	0.81	1.75	0.59	0.03	0.62
HSG Specific	Factor, S ⁴	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
HYDRO- LOGIC	COND. ³	Good	Good										
COVER	TYPE -	Open Space	Woods										
HYDRO- LOGIC	GROUP 1	O	O		O	O		C	C		O	C	
WATERSHED/	SUBBASIN ID	A		TOTAL:	В		TOTAL:	ပ		TOTAL:	D		TOTAL:

^{1.} Hydrologic Soil Group classification, see Soil Survey of Putnam and Westchester Counties, New York. United States Department of Agriculture, Soil Conservation Service.

^{3.} Hydrologic Condition either Poor, Fair or Good per Tables 2-2a.-c.-Runoff Curve Numbers for Urban Areas, TR-55 Urban Hydrology for Small Watersheds, Second Edition, June 1986, page 2-5.

HSG A	
4. Specific Reduction factors for the HSGs per NYSSMDM, Chapter 4, Section 4.3:	

0.55	0.40	0.30	0.20
HSG A	HSG B	HSG C	HSG D

^{5.} CN values from Tables 2-2a.-c.-Runoff Curve Numbers for Urban Areas, TR-55 Urban Hydrology for Small Watersheds, Second Edition, June 1986, page 2-5.

^{2.} Cover Type as listed per Tables 2-2a.-c.-Runoff Curve Numbers for Urban Areas, TR-55 Urban Hydrology for Small Watersheds, Second Edition, June 1986, page 2-5.

APPENDIX TABLE NO. 2

TRINITY PRESBYTERIAN CHURCH PURCHASE, NEW YORK

DEVELOPED CONDITIONS CURVE NUMBER COMPUTATIONS

WEIGHTED	Z C	74	72	73	74	72	73	92	72	74	95	65	68	72	60	74	72	72	ļ	8/	87		87	87
AREA	AxCN	15.9	17.2	33.1	18.0	10.1	28.1	61.3	41.0	102.3	2.9	2.9	20.5	1.3	61.0	6.3	29.7	36.0	1	72.8	25.8		79.4	79.4
PERVIOUS AREA	CN 2	74	72		74	72		74	72		74		74	72		74	72			7.4			74	
PERV	AREA (AC)	0.22	0.24	0.45	0.24	0.14	0.38	0.83	0.57	1.40	0.04	0.04	0.28	0.02	0.29	60:0	0.41	0.50	1	0.35	0.35		1.07	1.07
AREA	AxCN	0:0	0.0	0.0	0.0	0.0	0.0	7.3	0.0	7.3	23.8	23.8	45.1	0.0	40.1	0.0	0.0	0.0	1	39.7	39.7		132.2	132.2
IMPERVIOUS AREA	CN 2	86	86		86	86		86	98		86		86	86		86	86		0.0	98			86	
IMPER	AREA (AC)	00:00	0.00	0.00	00:00	0.00	0.00	20:0	0.00	0.07	0.24	0.24	0.46	0.00	0.40	0.00	0.00	0.00		0.41	0.41	i	1.35	1.35
TOTAL	(AC)	0.22	0.24	0.45	0.24	0.14	0.38	0.90	0.57	1.47	0.28	0.28	0.74	0.02	0./0	0.09	0.41	0.50	1	0.75	0.75		2.42	2.42
HSG Specific	Factor, S ⁴	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0:30	0.30	0.50	0.30	0.30	0.30	9	0.30	0.30		0.30	0.30
HYDRO- LOGIC	COND. 3	Good	Good		Good	Good		Good	Good		Good		Good	Good		Good	Good			Good			Good	
COVER	TYPE ~	Open Space	Woods		Open Space	Woods		Open Space	Woods		Open Space		Open Space	Woods		Open Space	Woods		(Open Space			Open Space	
HYDRO- LOGIC	$\mathbf{GROUP}\ ^{1}$	O	O		С	O		О	С		О		C	C		O	С		(S		,	С	
WATERSHED/	SUBBASIN ID	AA		TOTAL:	BB		TOTAL:	22		TOTAL:	CC - Bioretn/RG	TOTAL:	DD - Ex	. IATOT	IOIAL:	DD - Woods		TOTAL:	DD-1 Bio/RG	Pkg	TOTAL:	DD-2 Bio/RG	Pkg	TOTAL:

^{1.} Hydrologic Soil Group classification, see Soil Survey of Punnan and Westchester Counties, New York. United States Department of Agriculture, Soil Conservation Service.

^{2.} S=Hydrologic Soil Group (HSG) Specific Reduction Factor

^{2.} Cover Type as listed per Tables 2-2a.-c.-Runoff Curve Numbers for Urban Areas, TR-55 Urban Hydrology for Small Watersheds, Second Edition, June 1986, page 2-5.

^{3.} Hydrologic Condition either Poor, Fair or Good per Tables 2-2a.-c.-Runoff Curve Numbers for Urban Areas, TR-55 Urban Hydrology for Small Watersheds, Second Edition, June 1986, page 2-5.

4. Specific Reduction factors for the HSGs per NYSSMDM, Chapter 4, Section 4.3:

HSG A

0.55

APPENDIX TABLE NO. 3

TRINITY PRESBYTERIAN CHURCH PURCHASE, NEW YORK

EXISTING TIME OF CONCENTRATION (OR TRAVEL TIME)

SHEET FLOW			WATERSHED/ SUBBASIN ID											
			A	В	С	D	Reach A	Reach B	Reach D-1	Reach D-2				
1. Surface Description (See Table Below	$v)^{1}$		9	6	9	6								
2. Mannings Roughness Coefficient	n		0.4	0.24	0.4	0.24								
3. Flow Length (Total L≤100FT)	\mathbf{L}	ft	100	100	100	15								
4. 2-YR 24-HR Rainfall ²	\mathbf{P}_{2}	in	3.5	3.5	3.5	3.5								
5. Land Slope	S	ft/ft	0.06	0.05	0.03	0.17								
6. Travel Time														
$Tt = (0.007(nL)^{0.8})/(P_2^{0.5*}s^{0.4})$	T_t	hr	0.23	0.16	0.29	0.02								
SHALLOW CONCENTRATED FLOW	<u></u>													
7. Surface Description (paved or unpav	ed)		unpaved	unpaved	unpaved	paved	unpaved	unpaved						
8. Flow Length	\mathbf{L}	ft	436	148	134	765	1200	1300						
9. Watercourse Slope	s	ft/ft	0.04	0.04	0.05	0.07	0.07	0.07						
10. Average Velocity ³	V	ft/s	3.20	3.20	3.60	5.50	4.30	4.30						
11. $Tt = L / 3600V$	T_{t}	hr	0.04	0.01	0.01	0.04	0.08	0.08						
CHANNEL FLOW														
12. Cross Sectional Flow Area	a	ft^2							1.23	48.00				
13. Wetted Perimeter	$p_{\rm w}$	ft							3.93	28.94				
14. Hydraulic Radius, r = a/p _w	r	ft							0.31	1.66				
15. Channel Slope	s	ft/ft							0.06	0.02				
16. Manning's Roughness Coefficient ⁴	n								0.013	0.035				
17. Velocity = $(1.49r^{2/3}s^{1/2})/n$	V	ft/s							12.9	7.9				
18. Flow Length	\mathbf{L}	ft							800	400				
19. $Tt = L / 3600V$	T_{t}	hr							0.02	0.01				
TOTAL WATERSHED To	T_c	hr	0.27	0.17	0.30	0.06	0.08	0.08	0.02	0.01				

	ROUGHNESS COEFFICIENTS (Manni	ing's n)								
	FOR SHEET FLOW ¹									
1	Smooth (conc, asphalt, gravel, bare soil)	0.011								
2	Fallow (no residue)	0.05								
3	Cultivated Soils, Residue Cover < 20%	0.06								
4	Cultivated Soils, Residue Cover > 20%	0.17								
5	Short Grass Prairie	0.15								
6	Dense Grass	0.24								
7	Bermuda Grass	0.41								
8	Range (natural)	0.13								
9	Woods (light)	0.4								

Table 3-1. - Roughness coefficients (Manning's n) for SHEET FLOW, TR-55 Urban Hydrology for Small Watersheds, page 3-3.

Westchester County Rainfall, NYSDEC Amendment NY-1, November 7, 1990, page 2-14.5

Figure 3-1. - Average velocities for estimating travel time for shallow concentrated flow, TR-55 Urban Hydrology forSmall Watersheds, page 3-2.

Roughness coefficients (Manning's n) for CHANNEL FLOW. See Handbook of Hydraulics or equal.

APPENDIX TABLE NO. 4

TRINITY PRESBYTERIAN CHURCH PURCHASE, NEW YORK

DEVELOPED TIME OF CONCENTRATION (OR TRAVEL TIME)

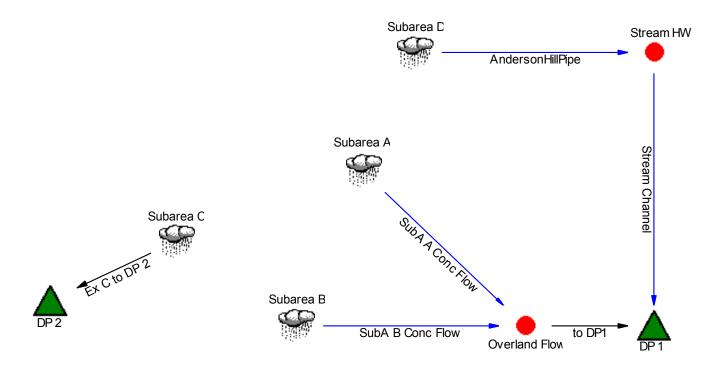
SHEET FLOW			WATERSHED/ SUBBASIN ID										
			AA	BB	CC	DD - Ex	DD - Woods	Reach A	Reach B	Reach D-1			
1. Surface Description (See Table Belov	w) 1		9	6	9	6	9						
2. Mannings Roughness Coefficient	n		0.4	0.24	0.4	0.24	0.4						
3. Flow Length (Total L≤100FT)	L	ft	100	100	100	15	100						
4. 2-YR 24-HR Rainfall ²	\mathbf{P}_{2}	in	3.5	3.5	3.5	3.5	3.5						
5. Land Slope	s	ft/ft	0.04	0.05	0.03	0.13	0.03						
6. Travel Time													
$\text{Tt} = (0.007 (nL)^{0.8}) / (P_2^{0.5} * s^{0.4})$	T_{t}	hr	0.26	0.16	0.29	0.02	0.29						
SHALLOW CONCENTRATED FLOW	<u>/</u>												
7. Surface Description (paved or unpay	red)			unpaved	unpaved	paved	unpaved	unpaved	unpaved				
8. Flow Length	Ĺ	ft		145	134	765	70	1200	1300				
9. Watercourse Slope	s	ft/ft		0.04	0.05	0.07	0.06	0.07	0.07				
10. Average Velocity ³	\mathbf{v}	ft/s		3.20	3.60	5.50	3.90	4.30	4.30				
11. $Tt = L / 3600V$	T_{t}	hr		0.01	0.01	0.04	0.00	0.08	0.08				
CHANNEL FLOW													
12. Cross Sectional Flow Area	a	ft^2								1.23			
13. Wetted Perimeter	$p_{\rm w}$	ft								3.93			
14. Hydraulic Radius, $r = a/p_w$	r	ft								0.31			
15. Channel Slope	s	ft/ft								0.06			
16. Manning's Roughness Coefficient ⁴	n	•								0.013			
17. Velocity = $(1.49r^{2/3}s^{1/2})/n$	v	ft/s								12.9			
18. Flow Length	\mathbf{L}	ft								800			
19. $Tt = L / 3600V$	T_{t}	hr								0.02			
TOTAL WATERSHED To	T_c	hr	0.26	0.18	0.30	0.06	0.30	0.08	0.08	0.02			

ROUGHNESS COEFFICIENTS (Manning's n)								
FOR SHEET FLOW ¹								
1	Smooth (conc, asphalt, gravel, bare soil)	0.011						
2	Fallow (no residue)	0.05						
3	Cultivated Soils, Residue Cover < 20%	0.06						
4	Cultivated Soils, Residue Cover > 20%	0.17						
5	Short Grass Prairie	0.15						
6	Dense Grass	0.24						
7	Bermuda Grass	0.41						
8	Range (natural)	0.13						
9	Woods (light & dense)	0.4						
	•							

Table 3-1. - Roughness coefficients (Manning's n) for SHEET FLOW, TR-55 Urban Hydrology for Small Watersheds, page 3-3.
 Westchester County Rainfall, NYSDEC Amendment NY-1, November 7, 1990, page 2-14.5
 Figure 3-1. - Average velocities for estimating travel time for shallow concentrated flow, TR-55 Urban Hydrology forSmall Watersheds, page 3-2.
 Roughness coefficients (Manning's n) for CHANNEL FLOW. See Handbook of Hydraulics or equal.

C. POND PACK MODELS

C.1. EXISTING CONDITIONS



Type.... Master Network Summary Page 1.01

Name.... Watershed

File.... J:\766 Trinity Presbyterian Church\Engineering\Pond Pack\766 14-06-24 Exist Cond.

MASTER DESIGN STORM SUMMARY

Network Storm Collection: Westchester Coun

	Total		
	Depth	Rainfall	
Return Event	in	Type	RNF ID
1	2.8000	Synthetic Curve	TypeIII 24hr
2	3.5000	Synthetic Curve	TypeIII 24hr
5	4.5000	Synthetic Curve	TypeIII 24hr
10	5.0000	Synthetic Curve	TypeIII 24hr
25	6.0000	Synthetic Curve	TypeIII 24hr
50	7.0000	Synthetic Curve	TypeIII 24hr
100	7.5000	Synthetic Curve	TypeIII 24hr

MASTER NETWORK SUMMARY SCS Unit Hydrograph Method

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
*DP 1	JCT	1	.391		12.2800	3.50		
*DP 1	JCT	2	.600		12.2600	5.60		
*DP 1	JCT	5	.932		12.2500	8.91		
*DP 1	JCT	10	1.108		12.2500	10.62		
*DP 1	JCT	25	1.475		12.2500	14.21		
*DP 1	JCT	50	1.858		12.2500	17.91		
*DP 1	JCT	100	2.053		12.2500	19.78		
*DP 2	JCT	1	.121		12.2400	1.09		
*DP 2	JCT	2	.190		12.2350	1.77		
*DP 2	JCT	5	.299		12.2300	2.84		
*DP 2	JCT	10	.357		12.2350	3.41		
*DP 2	JCT	25	.479		12.2000	4.59		
*DP 2	JCT	50	.605		12.2000	5.81		
*DP 2	JCT	100	.670		12.2000	6.43		

Name.... Watershed

File.... J:\766 Trinity Presbyterian Church\Engineering\Pond Pack\766 14-06-24 Exist Cond.

MASTER NETWORK SUMMARY SCS Unit Hydrograph Method

							Max
							Pond Storage
Node ID	Type I 		ac-ft 	hrs	cfs 	ft 	ac-ft
OVERLAND FLOW	JCT	1	.302		2.77		
OVERLAND FLOW	JCT	2	.478		4.62		
OVERLAND FLOW OVERLAND FLOW OVERLAND FLOW	JCT	5	.762	12.2800			
OVERLAND FLOW	JCT	10	.913	12.2800	9.10		
OVERLAND FLOW	JCT	25	1.231	12.2800	12.32		
OVERLAND FLOW	JCT	50	1.563	12.2800	15.63		
OVERLAND FLOW	JCT	100	1.733	12.2800	17.31		
STREAM HW	JCT	1	.089	12.1100	1.08		
STREAM HW	JCT	2	.122	12.1100			
STREAM HW	JCT	5	.170	12.1100	2.02		
STREAM HW	JCT	10	.170		2.30		
STREAM HW	JCT	25	.245	12.1050	2.84		
					3.39		
STREAM HW	JCT	100	.320	12.1050	3.66		
SUBAREA A	AREA	1	.278	12.2050	2.53		
SUBAREA A	AREA	2	.439	12.2050	4.22		
SUBAREA A	AREA	5	.439	12.2050	6.90		
			.837	12.2050	8.32		
SUBAREA A	AREA	25	1.128	12.2050	11.26		
SUBAREA A	AREA	50	1.432	12.2000	14.28		
SUBAREA A	AREA	100	1.587	12.2000	15.82		
SUBAREA B	AREA	1	.025	12.1450	.25		
SUBAREA B	AREA	2	.039	12.1450	.43		
SUBAREA B	AREA	5	.063	12.1400			
SUBAREA B			.076	12.1400	.86		
	AREA		.103	12.1450	1.17		
SUBAREA B	AREA	50	.131	12.1300	1.48		
SUBAREA B	AREA	100	.146	12.1300	1.64		

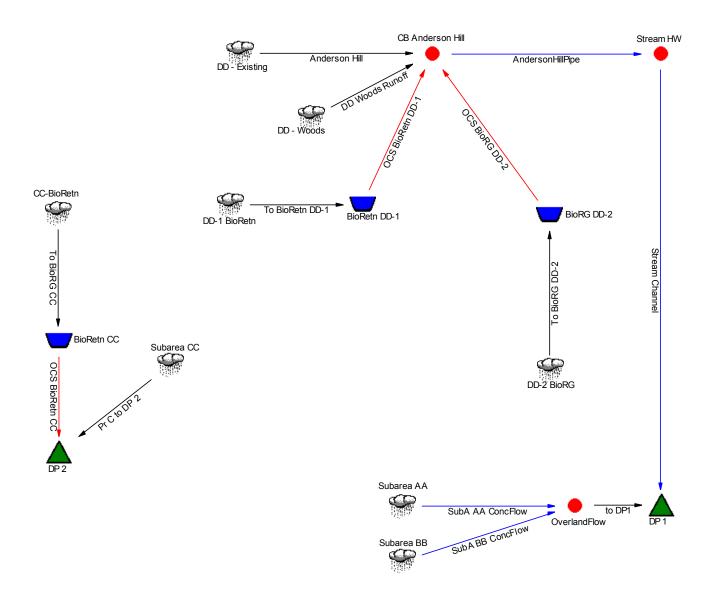
Name.... Watershed

File.... J:\766 Trinity Presbyterian Church\Engineering\Pond Pack\766 14-06-24 Exist Cond.

MASTER NETWORK SUMMARY SCS Unit Hydrograph Method

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
SUBAREA C	AREA	1	.121		12.2400	1.09		
SUBAREA C	AREA	2	.190		12.2350	1.77		
SUBAREA C	AREA	5	.299		12.2300	2.84		
SUBAREA C	AREA	10	.357		12.2350	3.41		
SUBAREA C	AREA	25	.479		12.2000	4.59		
SUBAREA C	AREA	50	.605		12.2000	5.81		
SUBAREA C	AREA	100	.670		12.2000	6.43		
SUBAREA D	AREA	1	.089		12.1000	1.10		
SUBAREA D	AREA	2	.122		12.1000	1.48		
SUBAREA D	AREA	5	.170		12.1000	2.04		
SUBAREA D	AREA	10	.195		12.1000	2.31		
SUBAREA D	AREA	25	.245		12.1000	2.86		
SUBAREA D	AREA	50	.295		12.1000	3.41		
SUBAREA D	AREA	100	.320		12.1000	3.68		

C.2. DEVELOPED CONDITIONS



Name.... Watershed

File.... J:\766 Trinity Presbyterian Church\Engineering\Pond Pack\766 14-08-20 Prop Cond.p

MASTER DESIGN STORM SUMMARY

Network Storm Collection: Westchester Coun

	Total Depth	Rainfall			
Return Event	in	Type	RNF ID		
1	2.8000	Synthetic Curve	TypeIII 24hr		
2	3.5000	Synthetic Curve	TypeIII 24hr		
5	4.5000	Synthetic Curve	TypeIII 24hr		
10	5.0000	Synthetic Curve	TypeIII 24hr		
25	6.0000	Synthetic Curve	TypeIII 24hr		
50	7.0000	Synthetic Curve	TypeIII 24hr		
100	7.5000	Synthetic Curve	TypeIII 24hr		

MASTER NETWORK SUMMARY SCS Unit Hydrograph Method

									Max
			Return	HYG Vol		Qpeak	Qpeak	Max WSEL	Pond Storage
Node ID		Type	Event	ac-ft	Trun	hrs	cfs	ft	ac-ft
BIORETN CC	IN	POND	1	.053		12.0900	.61		
BIORETN CC	IN	POND	2	.069		12.1000	.78		
BIORETN CC	IN	POND	5	.092		12.1000	1.03		
BIORETN CC	IN	POND	10	.103		12.0900	1.14		
BIORETN CC	IN	POND	25	.126		12.0900	1.38		
BIORETN CC	IN	POND	50	.149		12.0900	1.62		
BIORETN CC	IN	POND	100	.161		12.0900	1.74		
BIORETN CC	OUT	POND	1	.021		12.6500	.08	324.58	.033
BIORETN CC	OUT	POND	2	.037		12.3900	.21	324.76	.038
BIORETN CC	OUT	POND	5	.060		12.3400	.32	325.09	.048
BIORETN CC	OUT	POND	10	.072		12.3200	.36	325.25	.053
BIORETN CC	OUT	POND	25	.095		12.3300	.43	325.54	.062
BIORETN CC	OUT	POND	50	.118		12.3800	.47	325.78	.071
BIORETN CC	OUT	POND	100	.130		12.3900	.49	325.89	.075

File.... J:\766 Trinity Presbyterian Church\Engineering\Pond Pack\766 14-08-20 Prop Cond.p

MASTER NETWORK SUMMARY SCS Unit Hydrograph Method

Node ID		Type		ac-ft	Trun		cfs	ft	Max Pond Storage ac-ft
BIORETN DD-1	IN	POND	1	.098		12.1000	1.22		
BIORETN DD-1	IN	POND	2	.136		12.1000	1.68		
BIORETN DD-1	IN	POND	5	.194		12.1000			
BIORETN DD-1	IN	POND	10	.223		12.1000	2.68		
BIORETN DD-1	IN	POND	25	.282		12.1000	3.35		
BIORETN DD-1	IN	POND	50	.282		12.1000	4.02		
BIORETN DD-1	IN	POND		.373		12.1000	4.35		
BIORETN DD-1	OUT	POND	1	.049		12.5700	.20	319.10	.053
BIORETN DD-1	OUT	POND	2	.087		12.2700	.79	319.24	.059
BIORETN DD-1	OUT	POND	5	.144		12.2200	1.28	319.58	.073
BIORETN DD-1	OUT	POND	10	.174		12.2200	1.46	319.76	.081
BIORETN DD-1	OUT	POND		.233		12.2300			.096
BIORETN DD-1	OUT	POND	50	.293		12.2400	1.94	320.34	.110
BIORETN DD-1	OUT	POND	100	.323		12.2500	2.04	320.47	.118
BIORG DD-2	IN	POND	1	.316		12.1100	3.94		
BIORG DD-2	IN	POND	2	.440		12.1000	5.42		
BIORG DD-2	IN	POND	5	.625		12.1000	7.58		
BIORG DD-2	IN	POND	10	.719		12.1000	8.66		
BIORG DD-2	IN	POND	25	.911		12.1000	10.81		
BIORG DD-2	IN	POND	50	1.105		12.1000	12.96		
BIORG DD-2	IN	POND	100	1.203		12.1000	14.03		
BIORG DD-2	OUT	POND	1	.122		13.8900	.29	315.09	.207
BIORG DD-2	OUT	POND	2	.246		12.4900	1.21	315.24	.231
BIORG DD-2	OUT	POND	5	.246		12.3600	2.81	315.55	.283
BIORG DD-2	OUT	POND	10	.526		12.3500	3.28	315.75	.318
BIORG DD-2	OUT	POND	25	.717			4.03		
BIORG DD-2	OUT	POND	50	.911			4.59		.462
BIORG DD-2	OUT	POND	100	1.009		12.3700	4.83	316.63	.496

File.... J:\766 Trinity Presbyterian Church\Engineering\Pond Pack\766 14-08-20 Prop Cond.p

MASTER NETWORK SUMMARY SCS Unit Hydrograph Method

							Max
Node ID	Туре		ac-ft	Trun		cfs	Pond Storage ac-ft
CD ANDERSON UTIL	тст	1	300		12 1100	1.51	
CB ANDERSON HILI CB ANDERSON HILI CB ANDERSON HILI CB ANDERSON HILI	TCT	2	520		12.3400		
CB ANDERSON HILL	TCT	5	860		12.1300	6.49	
CB ANDERSON HILL	TCT	10	1 030			7.67	
CB ANDERSON HILI	. JCT	25	1 375			9.66	
CB ANDERSON HILI						11.35	
CB ANDERSON HILI							
CD INDUNOUN HILL	. 001	100	1.502		12.1200	12.11	
CC-BIORETN	AREA	1	.053		12.0900	.61	
CC-BIORETN	AREA	2	.069		12.1000		
CC-BIORETN	AREA	5	.092		12.1000	1.03	
CC-BIORETN	AREA	10	.069 .092 .103		12.0900	1.14	
CC-BIORETN	AREA	25	.126			1.38	
CC-BIORETN					12.0900	1.62	
CC-BIORETN						1.74	
DD - EXISTING	AREA	1	.109		12.1000	1.34	
DD - EXISTING	AREA	2	.149		12.1000	1.82	
DD - EXISTING	AREA	5	.209		12.1000	2.50	
DD - EXISTING	AREA	10	.239			2.83	
DD - EXISTING	AREA	25	.300		12.1000	3.51	
DD - EXISTING	AREA	50	.361		12.1000	4.18	
DD - EXISTING	AREA	100	.392		12.1000	4.51	
DD - WOODS	AREA	1	.029		12.2400	.24	
	AREA		.047		12.2400	.42	
		5			12.2400		
	AREA	10	.092		12.2300		
			.125			1.19	
			.160			1.53	
DD - WOODS	AREA	100	.177		12.2000	1.70	

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MASTER NETWORK SUMMARY SCS Unit Hydrograph Method

				_	_			Max
Node	ID	Tvpe	Return Event	HYG Vol ac-ft	Qpeak hrs	Qpeak cfs	Max WSEL ft	Pond Storage ac-ft
	BIORETN	AREA		.098	12.1000	1.22		
	BIORETN		2	.136	12.1000	1.68		
	BIORETN	AREA		.194	12.1000			
	BIORETN	AREA		.223	12.1000			
	BIORETN	AREA		.282	12.1000			
DD-1	BIORETN	AREA	50	.342	12.1000	4.02		
DD-1	BIORETN	AREA	100	.373	12.1000	4.35		
DD-2	BIORG	AREA		.316	12.1100	3.94		
DD-2	BIORG	AREA		.440	12.1000	5.42		
DD-2	BIORG	AREA		.625	12.1000			
DD-2	BIORG	AREA	10	.719	12.1000	8.66		
DD-2	BIORG	AREA	25	.911	12.1000	10.81		
DD-2	BIORG	AREA	50	1.105	12.1000	12.96		
DD-2	BIORG	AREA	100	1.203	12.1000	14.03		
*DP 1		JCT	1	.359	12.1900	1.71		
*DP 1		JCT	2	.611	12.3800	3.29		
*DP 1		JCT	5	.991	12.2400	7.43		
*DP 1		JCT	10	1.187	12.2100	8.86		
*DP 1		JCT	25	1.588	12.1800	11.35		
*DP 1		JCT	50	1.997	12.1800	13.56		
*DP 1		JCT	100	2.204	12.1800	14.61		
*DP 2		JCT	1	.117	12.2400	.85		
*DP 2		JCT	2	.189	12.2400	1.60		
*DP 2		JCT	5	.302	12.2400	2.60		
*DP 2		JCT	10	.361	12.2300	3.11		
*DP 2		JCT	25	.485	12.2000	4.15		
*DP 2		JCT	50	.613	12.2000	5.21		
*DP 2		JCT	100	.679	12.2000	5.74		

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MASTER NETWORK SUMMARY SCS Unit Hydrograph Method

							Max
Mada ID					Qpeak cfs		Pond Storage
Node ID		vent		 nrs	CIS	1 L	ac-ft
OVERLANDFLOW	JCT	1	.051	12.2500	.48		
OVERLANDFLOW	JCT	2	.082 .131 .158	12.2500			
OVERLANDFLOW	JCT	5	.131	12.2500	1.36		
OVERLANDFLOW	JCT	10	.158		1.64		
OVERLANDFLOW	JCT	25	.214		2.24		
			.272	12.2500	2.85		
OVERLANDFLOW	JCT	100	.302	12.2500	3.16		
STREAM HW	тст	1	.308	12 1200	1.49		
STREAM HW	JCT	2	.529	12.3700			
STREAM HW	JCT	5		12.1500			
STREAM HW	JCT	10	1.030	12.1400			
STREAM HW	JCT	25	1.375		9.60		
			1.725		11.29		
			1.902	12.1300			
					12.07		
SUBAREA AA	AREA	1	.028	12.2000	.25		
SUBAREA AA	AREA	2	.044	12.2000	.43		
SUBAREA AA	AREA	5	.044	12.2000	.71		
SUBAREA AA	AREA	10	.086	12.2000	.86		
SUBAREA AA	AREA	25	.116	12.2000	1.17		
SUBAREA AA	AREA	50	.148	12.1900	1.49		
SUBAREA AA	AREA	100	.164	12.1900	1.65		
SUBAREA BB	ARFA	1	.023	12.1600	.24		
SUBAREA BB	AREA		037	12.1400			
SUBAREA BB	AREA		.057	12.1400			
SUBAREA BB	AREA		.060	12.1400			
			.072		1.09		
	AREA		.125		1.39		
	AREA			12.1400	1.55		
SODWLEW DD	ALLA	100	.130	14.1400	1.55		

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MASTER NETWORK SUMMARY SCS Unit Hydrograph Method

Node ID	Ret Type Eve	urn ent	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
SUBAREA CC	AREA	1	.096		12.2400	.85		
SUBAREA CC	AREA	2	.152		12.2400	1.41		
SUBAREA CC	AREA	5	.242		12.2400	2.29		
SUBAREA CC	AREA	10	.290		12.2400	2.76		
SUBAREA CC	AREA	25	.390		12.2000	3.74		
SUBAREA CC	AREA	50	.495		12.2000	4.75		
SUBAREA CC	AREA	100	.549		12.2000	5.27		

TAB 4

TRINITY PRESBYTERIAN CHURCH TOWN OF HARRISON, NEW YORK

CONTRACTOR CERTIFICATION STATEMENT

I hereby certify that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the *owner or operator* must comply with the terms and conditions of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

CONTRACTOR		
Company:		-
Address:		<u>-</u>
Telephone:		-
CERTIFICATION		
Signature:		-
Name:		-
Title:		-
Date:		_
TRAINED INDIVID	UAL	
Name:		_
Title:		_
CONSTRUCTION/S	WPPP ACTIVITY RESPONSIBILITY:	

TRINITY PRESBYTERIAN CHURCH TOWN OF HARRISON, NEW YORK

CONSTRUCTION ACTIVITY INITIATION AND COMPLETION DATES

PERM. STABILIZE										
PAVING										
FINISH GRADING & TOPSOIL SPREADING										
TEMP. STABILIZE										
ROUGH GRADING										
STRIPPING & STOCKPILING OF TOPSOIL										
CLEARING AND GRUBBING OF VEGETATION										
SEDIMENT CONTROL MEASURES										
	BEGIN	BEGIN END	BEGIN	BEGIN						
AREA										

Note: Attach a map for delineation of area.

STORMWATER POLLUTION PREVENTION PLAN OBSERVATION REPORT

PROJECT : LOCATION:	Trinity Presbyterian Church Town of Harrison, New York
DATE OF INSPECTION: TIME OF INSPECTION: DATE OF PREVIOUS INSPECTION: WEATHER:	
SOIL CONDITION: INSPECTOR:	
OBSERVATION:	
Condition of Runoff at Discharge Points:	
•	
•	
Erosion and Sediment Control Practies to	be Repaired:
•	
•	
Erosion and Sediment Control Practics to General Commer The facil an compliance with the SWP.	CERTIFICA
The facilination of compliance with the SWP incorporate plan. I certify under penasupervise Based or graduate with a system designer based or graduate with a system designer based or graduate persons or persons informated as a class canor pursuant to section 2. Distribut	SPDES General Perm. and this document and all a prepared under my direction or that qualified personal proofs, and the system, or the sons direction of gathering the information submitted. by the system of the sons direction of gathering the information, the e, accurate, and the second teaching the information submitted. Considering the information, the end of the proofs are punishable to the proofs are punishable t



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES

from

CONSTRUCTION ACTIVITY

Permit No. GP-0-10-001

Issued Pursuant to Article 17, Titles 7, 8 and Article 70 of the Environmental Conservation Law

Effective Date: January 29, 2010 Expiration Date: January 28, 2015

William R. Adriance

Chief Permit Administrator

Authorized Signature

Address:

NYS DEC

Div. Environmental Permits 625 Broadway, 4th Floor Albany, N.Y. 12233-1750

PREFACE

Pursuant to Section 402 of the Clean Water Act ("CWA"), stormwater *discharges* from certain *construction activities* are unlawful unless they are authorized by a *National Pollutant Discharge Elimination System* ("NPDES") permit or by a state permit program. New York's *State Pollutant Discharge Elimination System* ("SPDES") is a NPDES-approved program with permits issued in accordance with the *Environmental Conservation Law* ("ECL").

This general permit ("permit") is issued pursuant to Article 17, Titles 7, 8 and Article 70 of the ECL. An *owner or operator* may obtain coverage under this permit by submitting a Notice of Intent ("NOI") to the Department. Copies of this permit and the NOI for New York are available by calling (518) 402-8109 or at any New York State Department of Environmental Conservation ("the Department") regional office (see Appendix G). They are also available on the Department's website at:

http://www.dec.ny.gov/

An owner or operator of a construction activity that is eligible for coverage under this permit must obtain coverage prior to the commencement of construction activity. Activities that fit the definition of "construction activity", as defined under 40 CFR 122.26(b)(14)(x), (15)(i), and (15)(ii), constitute construction of a point source and therefore, pursuant to Article 17-0505 of the ECL, the owner or operator must have coverage under a SPDES permit prior to commencing construction activity. They cannot wait until there is an actual discharge from the construction site to obtain permit coverage.

*Note: The italicized words/phrases within this permit are defined in Appendix A.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES

FROM CONSTRUCTION ACTIVITIES

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Part I. PERMIT COVERAGE AND LIMITATIONS

- **A. Permit Application** This permit authorizes stormwater *discharges* to *surface waters* of the State from the following *construction activities* identified within 40 CFR Parts 122.26(b)(14)(x), 122.26(b)(15)(i) and 122.26(b)(15)(ii), provided all of the eligibility provisions of this permit are met:
 - 1. Construction activities involving soil disturbances of one (1) or more acres; including disturbances of less than one acre that are part of a larger common plan of development or sale that will ultimately disturb one or more acres of land; excluding routine maintenance activity that is performed to maintain the original line and grade, hydraulic capacity or original purpose of a facility;
 - 2. Construction activities involving soil disturbances of less than one (1) acre where the Department has determined that a SPDES permit is required for stormwater discharges based on the potential for contribution to a violation of a water quality standard or for significant contribution of pollutants to surface waters of the State.
 - 3. *Construction activities* located in the watershed(s) identified in Appendix D that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land.
- **B.** <u>Maintaining Water Quality</u> It shall be a violation of this permit and the *ECL* for any *discharge* to either cause or contribute to a violation of *water quality standards* as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York, such as:
 - 1. There shall be no increase in turbidity that will cause a substantial visible contrast to natural conditions;
 - 2. There shall be no increase in suspended, colloidal or settleable solids that will cause deposition or impair the waters for their best usages; and
 - 3. There shall be no residue from oil and floating substances, nor visible oil film, nor globules of grease.

C. Eligibility Under This General Permit

- 1. This permit may authorize all *discharges* of stormwater from *construction activity* to *surface waters of the State* and *groundwaters* except for ineligible *discharges* identified under subparagraph D. of this Part.
- 2. Except for non-stormwater *discharges* explicitly listed in the next paragraph, this permit only authorizes stormwater discharges from *construction activities*.

(Part I. C)

3. Notwithstanding paragraphs C.1 and C.2 above, the following non-stormwater *discharges* may be authorized by this permit: discharges from fire fighting activities; fire hydrant flushings; waters to which cleansers or other components have not been added that are used to wash vehicles or control dust in accordance with the SWPPP, routine external building washdown which does not use detergents; pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used; air conditioning condensate; uncontaminated groundwater or spring water; uncontaminated discharges from construction site de-watering operations; and foundation or footing drains where flows are not contaminated with process materials such as solvents. For those entities required to obtain coverage under this permit, and who discharge as noted in this paragraph, and with the exception of flows from fire fighting activities, these discharges must be identified in the SWPPP. Under all circumstances, the *owner or operator* must still comply with water quality standards in Part I.B.

D. <u>Activities Which Are Ineligible for Coverage Under This General Permit</u> - All of the following are <u>not</u> authorized by this permit:

- 1. *Discharges* after *construction activities* have been completed and the site has undergone *final stabilization*;
- 2. *Discharges* that are mixed with sources of non-stormwater other than those expressly authorized under subsection C.3. of this Part and identified in the SWPPP required by this permit;
- 3. *Discharges* that are required to obtain an individual SPDES permit or another SPDES general permit pursuant to Part VII, subparagraph K of this permit;
- 4. *Discharges* from *construction activities* that adversely affect a listed, or proposed to be listed, endangered or threatened species, or its critical habitat;
- 5. *Discharges* which either cause or contribute to a violation of *water quality standards* adopted pursuant to the *ECL* and its accompanying regulations;
- 6. *Construction activities* for residential, commercial and institutional projects that:
 - a. are tributary to waters of the state classified as AA or AA-s; and

(Part I. D. 6)

- b. disturb one or more acres of land with no existing impervious cover and where the Soil Slope Phase is identified as an E or F on the USDA Soil Survey for the County in which the disturbance will occur.
- 7. *Construction activities* for linear transportation projects and linear utility projects that:
 - a. are tributary to waters of the state classified as AA or AA-s; and
 - b. disturb two or more acres of land with no existing impervious cover and where the Soil Slope Phase is identified as an E or F on the USDA Soil Survey for the County in which the disturbance will occur.
- 8. Construction activities that adversely affect a property that is listed or is eligible for listing on the State or National Register of Historic Places (Note: includes Archeological sites), unless there are written agreements in place with the NYS Office of Parks, Recreation and Historic Preservation (OPRHP) or other governmental agencies to mitigate the effects, or there are local land use approvals evidencing the same.

Part II. OBTAINING PERMIT COVERAGE

A. Notice of Intent (NOI) Submittal

1. An *owner or operator* of a *construction activity* that is <u>not</u> subject to the requirements of a *regulated, traditional land use control MS4* must first develop a SWPPP in accordance with all applicable requirements of this permit and then submit a completed NOI form to the address below in order to be authorized to *discharge* under this permit. The NOI form shall be one which is associated with this permit, signed in accordance with Part VII.H. of this permit.

NOTICE OF INTENT NYS DEC, Bureau of Water Permits 625 Broadway, 4th Floor Albany, New York 12233-3505

2. An *owner or operator* of a *construction activity* that is subject to the requirements of a *regulated, traditional land use control MS4* must first develop a SWPPP in accordance with all applicable requirements of this permit and then have its SWPPP reviewed and accepted by the *MS4* prior to submitting the NOI to the Department. The *owner or operator* shall have the "MS4 SWPPP Acceptance" form signed by the principal executive officer or ranking elected official from the *regulated, traditional land use control MS4*, or by a duly authorized representative of that person, and then submit that form along with the NOI to the address referenced under "Notice of Intent (NOI) Submittal".

(Part II. A)

- 3. This requirement does not apply to an *owner or operator* that is obtaining permit coverage in accordance with the requirements in Part II.E. (Change of Owner or Operator).
- 4. The *owner or operator* shall have the SWPPP preparer sign the "SWPPP Preparer Certification" statement on the NOI prior to submitting the form to the Department.
- 5. As of the date the NOI is submitted to the Department, the *owner or operator* shall make the NOI and SWPPP available for review and copying in accordance with the requirements in Part VII.F. of this permit.

B. Permit Authorization

- 1. An *owner or operator* shall not *commence construction activity* until their authorization to *discharge* under this permit goes into effect.
- 2. Authorization to *discharge* under this permit will be effective when the *owner or operator* has satisfied all of the following criteria:
 - a. project review pursuant to the State Environmental Quality Review Act (SEQRA) have been satisfied, when SEQRA is applicable,
 - b. where required, all necessary Department permits subject to the *Uniform Procedures Act (UPA)* (see 6 NYCRR Part 621) have been obtained, unless otherwise notified by the Department pursuant to 6 NYCRR 621.3(a)(4). *Owners or operators* of *construction activities* that are required to obtain *UPA* permits must submit a preliminary SWPPP to the appropriate DEC Regional Office in Appendix F at the time all other necessary *UPA* permit applications are submitted. The preliminary SWPPP must include sufficient information to demonstrate that the *construction activity* qualifies for authorization under this permit,
 - c. the final SWPPP has been prepared, and
 - d. an NOI has been submitted to the Department in accordance with the requirements of this permit.
- 3. An *owner or operator* that has satisfied the requirements of Part II.B.2 above will be authorized to *discharge* stormwater from their *construction activity* in accordance with the following schedule:

(Part II. B. 3)

- a. For *construction activities* that are <u>not</u> subject to the requirements of a *regulated, traditional land use control MS4*:
 - i. Five (5) business days from the date the Department receives a complete NOI for *construction activities* with a SWPPP that has been prepared in conformance with the technical standards referenced in Parts III.B.1, 2 and/or 3, or
 - ii. Sixty (60) business days from the date the Department receives a complete NOI for *construction activities* with a SWPPP that has <u>not</u> been prepared in conformance with the technical standards referenced in Parts III.B.1, 2 or 3.
- b. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*:
 - i. Five (5) business days from the date the Department receives a complete NOI and signed "MS4 SWPPP Acceptance" form,
- 4. The Department may suspend or deny an *owner's or operator's* coverage under this permit if the Department determines that the SWPPP does not meet the permit requirements.
- 5. Coverage under this permit authorizes stormwater *discharges* from only those areas of disturbance that are identified in the NOI. If an *owner or operator* wishes to have stormwater *discharges* from future or additional areas of disturbance authorized, they must submit a new NOI that addresses that phase of the development, unless otherwise notified by the Department.

C. General Requirements For Owners or Operators With Permit Coverage

- 1. The *owner or operator* shall ensure that the provisions of the SWPPP are implemented from the *commencement of construction activity* until all areas of disturbance have achieved *final stabilization* and the Notice of Termination (NOT) has been submitted to the Department in accordance with Part V. of this permit. This includes any changes made to the SWPPP pursuant to Part III.A.4.
- 2. The *owner or operator* shall maintain a copy of the General Permit (GP-0-10-001), NOI, *NOI Acknowledgment Letter*, SWPPP, MS4 SWPPP Acceptance form and inspection reports at the construction site until all disturbed areas have achieved *final stabilization* and the NOT has been submitted to the Department.

(Part II. C. 2)

The documents must be maintained in a secure location, such as a job trailer, on-site construction office, or mailbox with lock. The secure location must be accessible during normal business hours to an individual performing a compliance inspection.

- 3. The *owner or operator* of a *construction activity* shall not disturb greater than five (5) acres of soil at any one time without prior written authorization from the Department or, in areas under the jurisdiction of a *regulated*, *traditional land use control MS4*, the MS4 (provided the MS4 is not the *owner or operator* of the construction activity). At a minimum, the *owner or operator* must comply with the following requirements in order to be authorized to disturb greater than five (5) acres of soil at any one time:
 - a. The *owner or operator* shall have a *qualified inspector* conduct **at least** two (2) site inspections in accordance with Part IV.C. every seven (7) calendar days, for as long as greater than five (5) acres of soil remain disturbed. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.
 - b. In areas where soil disturbance activity has been temporarily or permanently ceased, temporary and/or permanent soil stabilization measures shall be installed and/or implemented within seven (7) days from the date the soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the most current version of the technical standard, New York State Standards and Specifications for Erosion and Sediment Control.
 - c. The *owner or operator* shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.
 - d. The *owner or operator* shall install any additional site specific practices needed to protect water quality.
 - e. The *owner or operator* shall include the requirements above in their SWPPP.
- 4. The Department may suspend or revoke an *owner's or operator's* coverage under this permit at any time if the Department determines that the SWPPP does not meet the permit requirements.

(Part II. C)

5. For *construction activities* that are subject to the requirements of a *regulated*, *traditional land use control MS4*, the *owner or operator* shall notify the *MS4* in writing of any planned amendments or modifications to the post-construction stormwater management practice component of the SWPPP required by Part III.A. 4. and 5. of this permit. Unless otherwise notified by the *MS4*, the *owner or operator* shall have the SWPPP amendments or modifications reviewed and accepted by the *MS4* prior to commencing construction of the post-construction stormwater management practice.

D. Permit Coverage for Discharges Authorized Under GP-0-08-001

1. Upon renewal of SPDES General Permit for Stormwater Discharges from Construction Activity (Permit No. GP-0-08-001), an owner or operator of construction activity with coverage under GP-0-08-001, as of the effective date of GP-0-10-001, shall be authorized to discharge in accordance with GP-0-10-001 unless otherwise notified by the Department.

E. Change of Owner or Operator

1. When property ownership changes or when there is a change in operational control over the construction plans and specifications, the original *owner or operator* must notify the new *owner or operator*, in writing, of the requirement to obtain permit coverage by submitting a NOI with the Department. Once the new *owner or operator* obtains permit coverage, the original *owner or operator* shall then submit a completed NOT with the name and permit identification number of the new *owner or operator* to the Department at the address in Part II.A.1.. If the original *owner or operator* maintains ownership of a portion of the *construction activity* and will disturb soil, they must maintain their coverage under the permit.

Permit coverage for the new *owner or operator* will be effective as of the date the Department receives a complete NOI, provided the original *owner or operator* was not subject to a sixty (60) business day authorization period that has not expired as of the date the Department receives the NOI from the new *owner or operator*.

Part III. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

A. General SWPPP Requirements

1. The SWPPP shall be prepared prior to the submittal of the NOI. The NOI shall be submitted to the Department prior to the *commencement of construction activity*.

(Part III. A)

- 2. The SWPPP shall describe the erosion and sediment control practices and where required, post-construction stormwater management practices that will be used and/or constructed to reduce the pollutants in stormwater discharges and to assure compliance with the terms and conditions of this permit. In addition, the SWPPP shall identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater discharges.
- 3. All SWPPs that require the post-construction stormwater management practice component shall be prepared by a *qualified professional* that is knowledgeable in the principles and practices of stormwater management and treatment.
- 4. The *owner or operator* must keep the SWPPP current so that it at all times accurately documents the erosion and sediment controls practices that are being used or will be used during construction, and all post-construction stormwater management practices that will be constructed on the site. At a minimum, the *owner or operator* shall amend the SWPPP:
 - a. whenever the current provisions prove to be ineffective in minimizing pollutants in stormwater *discharges* from the site;
 - b. whenever there is a change in design, construction, or operation at the construction site that has or could have an effect on the discharge of pollutants; and
 - c. to address issues or deficiencies identified during an inspection by the *qualified inspector*, the Department or other regulatory authority.
- 5. The Department may notify the *owner or operator* at any time that the SWPPP does not meet one or more of the minimum requirements of this permit. The notification shall be in writing and identify the provisions of the SWPPP that require modification. Within fourteen (14) calendar days of such notification, or as otherwise indicated by the Department, the *owner or operator* shall make the required changes to the SWPPP and submit written notification to the Department that the changes have been made. If the *owner or operator* does not respond to the Department's comments in the specified time frame, the Department may suspend the *owner's or operator's* coverage under this permit.
- 6. Prior to the *commencement of construction activity*, the *owner or operator* must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, replacing, inspecting and maintaining the erosion and sediment control practices included in the SWPPP; and the contractor(s) and subcontractor(s) that will be responsible for constructing the post-construction stormwater management practices included in the SWPPP.

(Part III. A. 6)

The *owner or operator* shall have each of the contractors and subcontractors identify at least one person from their company that will be responsible for implementation of the SWPPP. This person shall be known as the *trained contractor*. The *owner or operator* shall ensure that at least one *trained contractor* is on site on a daily basis when soil disturbance activities are being performed.

The *owner or operator* shall have each of the contractors and subcontractors identified above sign a copy of the following certification statement below before they commence any *construction activity*:

"I hereby certify that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the *qualified inspector* during a site inspection. I also understand that the *owner or operator* must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings."

In addition to providing the certification statement above, the certification page must also identify the specific elements of the SWPPP that each contractor and subcontractor will be responsible for and include the name and title of the person providing the signature; the name and title of the *trained contractor* responsible for SWPPP implementation; the name, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification statement is signed. The *owner or operator* shall attach the certification statement(s) to the copy of the SWPPP that is maintained at the construction site. If new or additional contractors are hired to implement measures identified in the SWPPP after construction has commenced, they must also sign the certification statement and provide the information listed above.

- 7. For projects where the Department requests a copy of the SWPPP or inspection reports, the *owner or operator* shall submit the documents in both electronic (PDF only) and paper format within five (5) business days, unless otherwise notified by the Department.
- 8. The SWPPP must include documentation supporting the determination of permit eligibility with regard to Part I.D.8. (Historic Places or Archeological Resource). At a minimum, the supporting documentation shall include the following:

(Part III. A. 8)

- a. Information on whether the stormwater discharge or *construction activities* would have an effect on a property (historic or archeological
 resource) that is listed or eligible for listing on the State or National
 Register of Historic Places;
- b. Results of historic resources screening determinations conducted. Information regarding the location of historic places listed, or eligible for listing, on the State or National Registers of Historic Places and areas of archeological sensitivity that may indicate the need for a survey can be obtained online by viewing the New York State Office of Parks, Recreation and Historic Places (OPRHP) online resources located on their web site at: http://nysparks.state.ny.us/shpo/online-tools/ (using The Geographic Information System for Archeology and National Register). OPRHP can also be contacted at: NYS OPRHP, State Historic Preservation Office, Peebles Island Resources Center, P.O. Box 189, Waterford, NY 12188-0189, phone: 518-237-8643;
- c. A description of measures necessary to avoid or minimize adverse impacts on places listed, or eligible for listing, on the State or National Register of Historic Places. If the *owner or operator* fails to describe and implement such measures, the stormwater *discharge* is ineligible for coverage under this permit; and
- d. Where adverse effects may occur, any written agreements in place with OPRHP or other governmental agency to mitigate those effects, or local land use approvals evidencing the same.

B. Required SWPPP Contents

- 1. Erosion and sediment control component All SWPPPs prepared pursuant to this permit shall include erosion and sediment control practices designed in conformance with the most current version of the technical standard, New York State Standards and Specifications for Erosion and Sediment Control. Where erosion and sediment control practices are not designed in conformance with this technical standard, the *owner or operator* must demonstrate equivalence to the technical standard. At a minimum, the erosion and sediment control component of the SWPPP shall include the following:
 - a. Background information about the scope of the project, including the location, type and size of project;

(Part III. B. 1)

- b. A site map/construction drawing(s) for the project, including a general location map. At a minimum, the site map shall show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s), wetlands and drainage patterns that could be affected by the construction activity; existing and final slopes; locations of different soil types with boundaries; material, waste, borrow or equipment storage areas located on adjacent properties; and location(s) of the stormwater discharge(s);
- c. A description of the soil(s) present at the site, including an identification of the Hydrologic Soil Group (HSG);
- d. A construction phasing plan and sequence of operations describing the intended order of construction activities, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance;
- e. A description of the minimum erosion and sediment control practices to be installed or implemented for each construction activity that will result in soil disturbance. Include a schedule that identifies the timing of initial placement or implementation of each erosion and sediment control practice and the minimum time frames that each practice should remain in place or be implemented;
- f. A temporary and permanent soil stabilization plan that meets the requirements of the most current version of the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, for each stage of the project, including initial land clearing and grubbing to project completion and achievement of final stabilization;
- g. A site map/construction drawing(s) showing the specific location(s), size(s), and length(s) of each erosion and sediment control practice;
- h. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices. Include the location and sizing of any temporary sediment basins and structural practices that will be used to divert flows from exposed soils;

(Part III. B. 1)

- i. A maintenance inspection schedule for the contractor(s) identified in Part III.A.6., to ensure continuous and effective operation of the erosion and sediment control practices. The maintenance inspection schedule shall be in accordance with the requirements in the most current version of the technical standard, New York State Standards and Specifications for Erosion and Sediment Control;
- j. A description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a pollutant source in the stormwater *discharges*;
- k. A description and location of any stormwater *discharges* associated with industrial activity other than construction at the site, including, but not limited to, stormwater *discharges* from asphalt plants and concrete plants located on the construction site; and
- Identification of any elements of the design that are not in conformance with the requirements in the most current version of the technical standard, New York State Standards and Specifications for Erosion and Sediment Control. Include the reason for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is equivalent to the technical standards.
- 2. Post-construction stormwater management practice component All construction projects identified in Table 2 of Appendix B as needing post-construction stormwater management practices shall prepare a SWPPP that includes practices designed in conformance with the most current version of the technical standard, New York State Stormwater Management Design Manual ("Design Manual"). If the Design Manual is revised during the term of this permit, an *owner or operator* must begin using the revised version of the Design Manual to prepare their SWPPP six (6) months from the final revision date of the Design Manual.

Where post-construction stormwater management practices are not designed in conformance with this technical standard, the *owner or operator* must demonstrate equivalence to the technical standard.

At a minimum, the post-construction stormwater management practice component of the SWPPP shall include the following:

a. Identification of all post-construction stormwater management practices to be constructed as part of the project;

(Part III. B. 2)

- b. A site map/construction drawing(s) showing the specific location and size of each post-construction stormwater management practice;
- c. The dimensions, material specifications and installation details for each post-construction stormwater management practice;
- d. Identification of any elements of the design that are not in conformance with the Design Manual. Include the reason for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is equivalent to the technical standards;
- e. A hydrologic and hydraulic analysis for all structural components of the stormwater management control system;
- f. A detailed summary (including calculations) of the sizing criteria that was used to design all post-construction stormwater management practices. At a minimum, the summary shall address the required design criteria from the applicable chapter of the Design Manual; including the identification of and justification for any deviations from the Design Manual, and identification of any design criteria that are not required based on the design criteria or waiver criteria included in the Design Manual; and
- g. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each post-construction stormwater management practice. The plan shall identify the entity that will be responsible for the long term operation and maintenance of each practice.
- 3. Enhanced Phosphorus Removal Standards All construction projects identified in Table 2 of Appendix B that are located in the watersheds identified in Appendix C shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards included in the Design Manual. At a minimum, the post-construction stormwater management practice component of the SWPPP shall include items 2.a 2.g. above.

(Part III. C)

C. Required SWPPP Components by Project Type - Unless otherwise notified by the Department, owners or operators of construction activities identified in Table 1 of Appendix B are required to prepare a SWPPP that only includes erosion and sediment control practices designed in conformance with Part III.B.1. Owners or operators of the construction activities identified in Table 2 of Appendix B shall prepare a SWPPP that also includes post-construction stormwater management practices designed in conformance with Part III.B.2 or 3.

Part IV. INSPECTION AND MAINTENANCE REQUIREMENTS

A. General Construction Site Inspection and Maintenance Requirements

- 1. The *owner or operator* must ensure that all erosion and sediment control practices and all post-construction stormwater management practices identified in the SWPPP are maintained in effective operating condition at all times.
- 2. The terms of this permit shall not be construed to prohibit the State of New York from exercising any authority pursuant to the ECL, common law or federal law, or prohibit New York State from taking any measures, whether civil or criminal, to prevent violations of the laws of the State of New York, or protect the public health and safety and/or the environment.

B. Owner or Operator Maintenance Inspection Requirements

- 1. The *owner or operator* shall inspect, in accordance with the requirements in the most current version of the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, the erosion and sediment controls identified in the SWPPP to ensure that they are being maintained in effective operating condition at all times.
- 2. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and temporary stabilization measures have been applied to all disturbed areas, the *owner or operator* can stop conducting the maintenance inspections. The *owner or operator* shall begin conducting the maintenance inspections in accordance with Part IV.B.1. as soon as soil disturbance activities resume.
- 3. For construction sites where soil disturbance activities have been shut down with partial project completion, the *owner or operator* can stop conducting the maintenance inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational.

(Part IV. C)

C. <u>Qualified Inspector Inspection Requirements</u> - The *owner or operator* shall have a *qualified inspector* conduct site inspections in conformance with the following requirements:

[Note: The *trained contractor* identified in Part III.A.6. **cannot** conduct the *qualified inspector* site inspections unless they meet the *qualified inspector* qualifications included in Appendix A. In order to perform these inspections, the *trained contractor* would have to be a:

- Licensed Professional Engineer,
- Certified Professional in Erosion and Sediment Control (CPESC),
- Registered Landscape Architect, or
- Someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity].
- 1. A *qualified inspector* shall conduct site inspections for all *construction activities* identified in Tables 1 and 2 of Appendix B, with the exception of:
 - a. the construction of a single family residential subdivision with 25% or less impervious cover at total site build-out that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is <u>not</u> located in one of the watersheds listed in Appendix C and <u>not</u> directly discharging to one of the 303(d) segments listed in Appendix E;
 - b. the construction of a single family home that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is <u>not</u> located in one of the watersheds listed in Appendix C and <u>not</u> directly discharging to one of the 303(d) segments listed in Appendix E;
 - c. construction on agricultural property that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres; and
 - d. construction activities located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land.
- 2. Unless otherwise notified by the Department, the *qualified inspector* shall conduct site inspections in accordance with the following timetable:
 - a. For construction sites where soil disturbance activities are on-going, the *qualified inspector* shall conduct a site inspection at least once every seven (7) calendar days.

(Part IV. C. 2)

- b. For construction sites where soil disturbance activities are on-going and the *owner or operator* has received authorization in accordance with Part II.C.3 to disturb greater than five (5) acres of soil at any one time, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.
- c. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and temporary stabilization measures have been applied to all disturbed areas, the *qualified inspector* shall conduct a site inspection at least once every thirty (30) calendar days. The *owner or operator* shall notify the Regional Office stormwater contact person (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated*, *traditional land use control MS4*, the MS4 (provided the MS4 is not the *owner or operator* of the construction activity) in writing prior to reducing the frequency of inspections.
- d. For construction sites where soil disturbance activities have been shut down with partial project completion, the *qualified inspector* can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational. The *owner or operator* shall notify the Regional Office stormwater contact person (see contact information in Appendix F) or, in areas under the jurisdiction of a regulated, traditional land use control MS4, the MS4 (provided the MS4 is not the owner or operator of the construction activity). in writing prior to the shutdown. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the *owner or operator* shall have the *qualified inspector* perform a final inspection and certify that all disturbed areas have achieved *final stabilization*, and all temporary, structural erosion and sediment control measures have been removed; and that all postconstruction stormwater management practices have been constructed in conformance with the SWPPP by signing the "Final Stabilization" and "Post-Construction Stormwater Management Practice" certification statements on the NOT. The owner or operator shall then submit the completed NOT form to the address in Part II.A.1..

(Part IV. C. 3)

- 3. At a minimum, the *qualified inspector* shall inspect all erosion and sediment control practices to ensure integrity and effectiveness, all post-construction stormwater management practices under construction to ensure that they are constructed in conformance with the SWPPP, all areas of disturbance that have not achieved *final stabilization*, all points of discharge to natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the construction site, and all points of discharge from the construction site.
- 4. The *qualified inspector* shall prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report shall include and/or address the following:
 - a. Date and time of inspection;
 - b. Name and title of person(s) performing inspection;
 - c. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection;
 - d. A description of the condition of the runoff at all points of discharge from the construction site. This shall include identification of any discharges of sediment from the construction site. Include discharges from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow;
 - e. A description of the condition of all natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the construction site which receive runoff from disturbed areas. This shall include identification of any *discharges* of sediment to the surface waterbody;
 - f. Identification of all erosion and sediment control practices that need repair or maintenance;
 - g. Identification of all erosion and sediment control practices that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;
 - h. Description and sketch of areas that are disturbed at the time of the inspection and areas that have been stabilized (temporary and/or final) since the last inspection;

(Part IV. C 4)

- i. Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards;
- j. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s); and
- k. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The *qualified inspector* shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.
- 5. Within one business day of the completion of an inspection, the *qualified inspector* shall notify the *owner or operator* and appropriate contractor or subcontractor identified in Part III.A.6. of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.
- 6. All inspection reports shall be signed by the *qualified inspector*. Pursuant to Part II.C.2., the inspection reports shall be maintained on site with the SWPPP.

Part V. TERMINATION OF PERMIT COVERAGE

A. Termination of Permit Coverage

- 1. An *owner or operator* that is eligible to terminate coverage under this permit must submit a completed NOT form to the address in Part II.A.1. The NOT form shall be one which is associated with this general permit, signed in accordance with Part VII.H.
- 2. An *owner or operator* may terminate coverage when one or more the following conditions have been met:

(Part V. A. 2)

- a. Total project completion All construction activity identified in the SWPPP has been completed; <u>and</u> all areas of disturbance have achieved *final stabilization*; <u>and</u> all temporary, structural erosion and sediment control measures have been removed; <u>and</u> all post-construction stormwater management practices have been constructed in conformance with the SWPPP and are operational;
- b. Planned shutdown with partial project completion All soil disturbance activities have ceased; <u>and</u> all areas disturbed as of the project shutdown date have achieved *final stabilization*; <u>and</u> all temporary, structural erosion and sediment control measures have been removed; <u>and</u> all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational;
- c. A new *owner or operator* has obtained coverage under this permit in accordance with Part II.E.
- 3. For *construction activities* meeting subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *qualified inspector* perform a final site inspection prior to submitting the NOT. The *qualified inspector* shall, by signing the "Final Stabilization" and "Post-Construction Stormwater Management Practice" certification statements on the NOT, certify that all disturbed areas have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and that all post-construction stormwater management practices have been constructed in conformance with the SWPPP.
- 4. For construction activities that are subject to the requirements of a regulated, traditional land use control MS4 and meet subdivision 2a. or 2b. of this Part, the owner or operator shall also have the MS4 sign the "MS4 Acceptance" statement on the NOT. The owner or operator shall have the principal executive officer, ranking elected official, or duly authorized representative from the regulated, traditional land use control MS4, sign the "MS4 Acceptance" statement. The MS4 official, by signing this statement, has determined that it is acceptable for the owner or operator to submit the NOT in accordance with the requirements of this Part. The MS4 can make this determination by performing a final site inspection themselves or by accepting the qualified inspector's final site inspection certification(s) required in Part V.3.
- 5. For *construction activities* that require post-construction stormwater management practices and meet subdivision 2a. of this Part, the *owner or operator* must, prior to submitting the NOT, ensure one of the following:

(Part V. A. 5)

- a. the post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain such practice(s) have been deeded to the municipality in which the practice(s) is located,
- b. an executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s),
- c. for post-construction stormwater management practices that are privately owned, the *owner or operator* has modified their deed of record to include a deed covenant that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan,
- d. for post-construction stormwater management practices that are owned by a public or private institution (e.g. school, college, university), or government agency or authority, the *owner or operator* has policy and procedures in place that ensures operation and maintenance of the practices in accordance with the operation and maintenance plan.

Part VI. REPORTING AND RETENTION OF RECORDS

- **A.** <u>Record Retention</u> The *owner or operator* shall retain a copy of the NOI, NOI Acknowledgment Letter, SWPPP, MS4 SWPPP Acceptance form and any inspection reports that were prepared in conjunction with this permit for a period of at least five (5) years from the date that the site achieves *final stabilization*. This period may be extended by the Department, in its sole discretion, at any time upon written notification.
- **B.** <u>Addresses</u> With the exception of the NOI, NOT, and MS4 SWPPP Acceptance form (which must be submitted to the address referenced in Part II.A.1), all written correspondence requested by the Department, including individual permit applications, shall be sent to the address of the appropriate Department Regional Office listed in Appendix F.

Part VII. STANDARD PERMIT CONDITIONS

A. <u>Duty to Comply</u> - The *owner or operator* must comply with all conditions of this permit. All contractors and subcontractors associated with the project must comply with the terms of the SWPPP. Any non-compliance with this permit constitutes a violation of the Clean Water Act (CWA) and the ECL and is grounds for an enforcement action against the *owner or operator* and/or the contractor/subcontractor; permit revocation, suspension or modification; or denial of a permit renewal application. Upon a finding of significant non-compliance with this permit or the applicable SWPPP, the Department may order an immediate stop to all *construction activity* at the site until the non-compliance is remedied.

(Part VII. A)

The stop work order shall be in writing, shall describe the non-compliance in detail, and shall be sent to the *owner or operator*.

- **B.** Continuation of the Expired General Permit This permit expires five (5) years from the effective date. However, coverage may be obtained under the expired general permit, which will continue in force and effect, until a new general permit is issued. Unless otherwise notified by the Department in writing, an *owner or operator* seeking authorization under the new general permit must submit a new NOI in accordance with the terms of such new general permit.
- **C.** Enforcement Failure of the *owner or operator*, its contractors, subcontractors, agents and/or assigns to strictly adhere to any of the permit requirements contained herein shall constitute a violation of this permit. There are substantial criminal, civil, and administrative penalties associated with violating the provisions of this permit. Fines of up to \$37,500 per day for each violation and imprisonment for up to fifteen (15) years may be assessed depending upon the nature and degree of the offense.
- **D.** <u>Need to Halt or Reduce Activity Not a Defense</u> It shall not be a defense for an *owner or operator* in an enforcement action that it would have been necessary to halt or reduce the *construction activity* in order to maintain compliance with the conditions of this permit.
- **E.** <u>Duty to Mitigate</u> The *owner or operator* and its contractors and subcontractors shall take all reasonable steps to minimize or prevent any *discharge* in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
- **F.** <u>Duty to Provide Information</u> The *owner or operator* shall make available to the Department for review and copying or furnish to the Department within five (5) business days of receipt of a Department request for such information, any information requested for the purpose of determining compliance with this permit. This can include, but is not limited to, the NOI, NOI Acknowledgment Letter, SWPPP, MS4 SWPPP Acceptance form, executed maintenance agreement, and inspection reports. Failure to provide information requested by the Department within the request timeframe shall be a violation of this permit.
- The NOI, SWPPP and inspection reports required by this permit are public documents that the *owner or operator* must make available for review and copying by any person within five (5) business days of the *owner or operator* receiving a written request by any such person to review the NOI, SWPPP or inspection reports. Copying of documents will be done at the requester's expense.
- **G.** <u>Other Information</u> When the *owner or operator* becomes aware that they failed to submit any relevant facts, or submitted incorrect information in the NOI or in any other report, or have made substantive revisions to the SWPPP (e.g. the scope of the project changes significantly, the type of post-construction stormwater management practice(s)

(Part VII. G)

changes, there is a reduction in the sizing of the post-construction stormwater management practice, or there is an increase in the disturbance area or impervious area), which were not reflected in the original NOI submitted to the Department, they shall promptly submit such facts or information to the Department. Failure of the *owner or operator* to correct or supplement any relevant facts within five (5) business days of becoming aware of the deficiency shall constitute a violation of this permit.

H. Signatory Requirements

- 1. All NOIs and NOTs shall be signed as follows:
 - a. For a corporation these forms shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
 - a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or
 - ii. the manager of one or more manufacturing, production or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
 - b. For a partnership or sole proprietorship these forms shall be signed by a general partner or the proprietor, respectively; or
 - c. For a municipality, State, Federal, or other public agency these forms shall be signed by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:
 - i. the chief executive officer of the agency, or

(Part VII. H. 1. c)

- ii. a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).
- 2. The SWPPP and other information requested by the Department shall be signed by a person described in Part VII.H.1. or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described in Part VII.H.1.;
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position) and,
 - c. The written authorization shall include the name, title and signature of the authorized representative and be attached to the SWPPP.
- 3. All inspection reports shall be signed by the *qualified inspector* that performs the inspection.
- 4. The MS4 SWPPP Acceptance form shall be signed by the principal executive officer or ranking elected official from the *regulated*, *traditional land use control MS4*, or by a duly authorized representative of that person.
 - It shall constitute a permit violation if an incorrect and/or improper signatory authorizes any required forms, SWPPP and/or inspection reports.
- **I.** <u>Property Rights</u> The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations. *Owners or operators* must obtain any applicable conveyances, easements, licenses and/or access to real property prior to *commencing construction activity*.
- **J.** <u>Severability</u> The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

(Part VII. K)

K. Denial of Coverage Under This Permit

- 1. At its sole discretion, the Department may require any *owner or operator* authorized by this permit to apply for and/or obtain either an individual SPDES permit or another SPDES general permit. When the Department requires any discharger authorized by a general permit to apply for an individual SPDES permit, it shall notify the discharger in writing that a permit application is required. This notice shall include a brief statement of the reasons for this decision, an application form, a statement setting a time frame for the *owner or operator* to file the application for an individual SPDES permit, and a deadline, not sooner than 180 days from *owner or operator* receipt of the notification letter, whereby the authorization to discharge under this general permit shall be terminated. Applications must be submitted to the appropriate Regional Office. The Department may grant additional time upon demonstration, to the satisfaction of the Regional Water Engineer, that additional time to apply for an alternative authorization is necessary or where the Department has not provided a permit determination in accordance with Part 621 of this Title.
- 2. Any *owner or operator* authorized by this permit may request to be excluded from the coverage under this permit by applying for an individual permit or another general permit. In such cases, the *owner or operator* shall submit an individual application or an alternative general permit application in accordance with the requirements of this general permit, 40 CFR 122.26(c)(1)(ii) and 6 NYCRR Part 621, with reasons supporting the request, to the Department at the address for the appropriate Department Office (see addresses in Appendix F). The request may be granted by issuance of an individual permit or another general permit at the discretion of the Department.
- 3. When an individual SPDES permit is issued to a discharger authorized to discharge under a general SPDES permit for the same discharge(s), the general permit authorization for outfalls authorized under the individual SPDES permit is automatically terminated on the effective date of the individual permit unless termination is earlier in accordance with 6 NYCRR Part 750.
- **L.** <u>Proper Operation and Maintenance</u> The *owner or operator* shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the *owner or operator* to achieve compliance with the conditions of this permit and with the requirements of the SWPPP.
- **M.** <u>Inspection and Entry</u> The *owner or operator* shall allow the Department or an authorized representative of EPA, the State, or, in the case of a construction site which discharges through an *MS4*, an authorized representative of the *MS4* receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

(Part VII. M)

- 1. Enter upon the *owner's or operator's* premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;
- 2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit; and
- 3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment).
- **N.** <u>Permit Actions</u> At the Department's sole discretion, this permit may, at any time, be modified, suspended, revoked, or renewed. The filing of a request by the *owner or operator* for a permit modification, revocation and reissuance, termination, a notification of planned changes or anticipated noncompliance does not limit, diminish and/or stay compliance with any terms of this permit.
- **O.** <u>Definitions</u> Definitions of key terms are included in Appendix A of this permit.

P. Re-Opener Clause

- 1. If there is evidence indicating potential or realized impacts on water quality due to any stormwater discharge associated with *construction activity* covered by this permit, the *owner or operator* of such discharge may be required to obtain an individual permit or alternative general permit in accordance with Part VII.K. of this permit or the permit may be modified to include different limitations and/or requirements.
- 2. Permit modification, suspension or revocation will be conducted in accordance with 6 NYCRR Part 621, 6 NYCRR 750-1.18, and 6 NYCRR 750-1.20.
- **Q.** <u>Penalties for Falsification of Forms and Reports</u> Article 17 of the ECL provides for a civil penalty of \$37,500 per day per violation of this permit. Articles 175 and 210 of the New York State Penal Law provide for a criminal penalty of a fine and/or imprisonment for falsifying forms and reports required by this permit.
- **R.** Other Permits Nothing in this permit relieves the owner or operator from a requirement to obtain any other permits required by law.

APPENDIX A

Definitions

Alter Hydrology from Pre to Post-Development Conditions - means the post-development peak flow rate(s) has increased by more than 5% of the pre-developed condition for the design storm of interest (e.g. 10 yr and 100 yr).

Combined Sewer - means a sewer that is designed to collect and convey both "sewage" and "stormwater".

Commence (Commencement of) Construction Activities - means the initial disturbance of soils associated with clearing, grading or excavation activities; or other construction related activities that disturb or expose soils such as demolition, stockpiling of fill material, and the initial installation of erosion and sediment control practices required in the SWPPP. See definition for "Construction Activity(ies)" also.

Construction Activity(ies) - means any clearing, grading, excavation, filling, demolition or stockpiling activities that result in soil disturbance. Clearing activities can include, but are not limited to, logging equipment operation, the cutting and skidding of trees, stump removal and/or brush root removal. Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

Direct Discharge (to a specific surface waterbody) - means that runoff flows from a construction site by overland flow and the first point of discharge is the specific surface waterbody, or runoff flows from a construction site to a separate storm sewer system and the first point of discharge from the separate storm sewer system is the specific surface waterbody.

Discharge(s) - means any addition of any pollutant to waters of the State through an outlet or point source.

Environmental Conservation Law (ECL) - means chapter 43-B of the Consolidated Laws of the State of New York, entitled the Environmental Conservation Law.

Final Stabilization - means that all soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other equivalent stabilization measures, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete or pavement.

General SPDES permit - means a SPDES permit issued pursuant to 6 NYCRR Part 750-1.21 authorizing a category of discharges.

Groundwater - means waters in the saturated zone. The saturated zone is a subsurface zone in

which all the interstices are filled with water under pressure greater than that of the atmosphere. Although the zone may contain gas-filled interstices or interstices filled with fluids other than water, it is still considered saturated.

Impervious Area (Cover) - means all impermeable surfaces that cannot effectively infiltrate rainfall. This includes paved, concrete and gravel surfaces (i.e. parking lots, driveways, roads, runways and sidewalks); building rooftops and miscellaneous impermeable structures such as patios, pools, and sheds.

Larger Common Plan of Development or Sale - means a contiguous area where multiple separate and distinct construction activities are occurring, or will occur, under one plan. The term "plan" in "larger common plan of development or sale" is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, marketing plan, advertisement, drawing, permit application, State Environmental Quality Review Act (SEQRA) application, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating that construction activities may occur on a specific plot.

For discrete construction projects that are located within a larger common plan of development or sale that are at least 1/4 mile apart, each project can be treated as a separate plan of development or sale provided any interconnecting road, pipeline or utility project that is part of the same "common plan" is not concurrently being disturbed.

Municipal Separate Storm Sewer (MS4) - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

- i. Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to surface waters of the State;
- ii. Designed or used for collecting or conveying stormwater;
- iii. Which is not a combined sewer; and
- iv. Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

National Pollutant Discharge Elimination System (NPDES) - means the national system for the issuance of wastewater and stormwater permits under the Federal Water Pollution Control Act (Clean Water Act).

NOI Acknowledgment Letter - means the letter that the Department sends to an owner or operator to acknowledge the Department's receipt and acceptance of a complete Notice of Intent. This letter documents the owner's or operator's authorization to discharge in accordance with the general permit for stormwater discharges from construction activity.

Owner or Operator - means the person, persons or legal entity which owns or leases the property on which the construction activity is occurring; and/or an entity that has operational control over the construction plans and specifications, including the ability to make modifications to the plans and specifications.

Pollutant - means dredged spoil, filter backwash, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand and industrial, municipal, agricultural waste and ballast discharged into water; which may cause or might reasonably be expected to cause pollution of the waters of the state in contravention of the standards or guidance values adopted as provided in Parts 700 et seq of this Title.

Qualified Inspector - means a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, or other Department endorsed individual(s).

It can also mean someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect shall receive four (4) hours of training every three (3) years.

It can also mean a person that meets the *Qualified Professional* qualifications in addition to the *Qualified Inspector* qualifications.

Note: Inspections of any post-construction stormwater management practices that include structural components, such as a dam for an impoundment, shall be performed by a licensed Professional Engineer.

Qualified Professional - means a person that is knowledgeable in the principles and practices of stormwater management and treatment, such as a licensed Professional Engineer, Registered Landscape Architect or other Department endorsed individual(s). Individuals preparing SWPPPs that require the post-construction stormwater management practice component must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design, and, in many cases, the principles of hydraulics in order to prepare a SWPPP that conforms to the Department's technical standard. All components of the SWPPP that involve the practice of engineering, as defined by the NYS Education Law (see Article 145), shall be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York.

Regulated, Traditional Land Use Control MS4 - means a city, town or village with land use control authority that is required to gain coverage under New York State DEC's SPDES General Permit For Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s).

Routine Maintenance Activity - means construction activity that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility, including, but not limited to:

- Re-grading of gravel roads or parking lots,
- Stream bank restoration projects (does not include the placement of spoil material),
- Cleaning and shaping of existing roadside ditches and culverts that maintains the approximate original line and grade, and hydraulic capacity of the ditch,
- Cleaning and shaping of existing roadside ditches that does not maintain the approximate original grade, hydraulic capacity and purpose of the ditch if the changes to the line and grade, hydraulic capacity or purpose of the ditch are installed to improve water quality and quantity controls (e.g. installing grass lined ditch),
- Placement of aggregate shoulder backing that makes the transition between the road shoulder and the ditch or embankment,
- Full depth milling and filling of existing asphalt pavements, replacement of concrete pavement slabs, and similar work that does not expose soil or disturb the bottom six (6) inches of subbase material,
- Long-term use of equipment storage areas at or near highway maintenance facilities,
- Removal of sediment from the edge of the highway to restore a previously existing sheet-flow drainage connection from the highway surface to the highway ditch or embankment,
- Existing use of Canal Corp owned upland disposal sites for the canal, and
- Replacement of curbs, gutters, sidewalks and guide rail posts.

State Pollutant Discharge Elimination System (SPDES) - means the system established pursuant to Article 17 of the ECL and 6 NYCRR Part 750 for issuance of permits authorizing discharges to the waters of the state.

Surface Waters of the State - shall be construed to include lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface or underground waters), which are wholly or partially within or bordering the state or within its jurisdiction. Waters of the state are further defined in 6 NYCRR Parts 800 to 941.

Temporary Stabilization - means that exposed soil has been covered with material(s) as set forth in the technical standard, New York Standards and Specifications for Erosion and Sediment Control, to prevent the exposed soil from eroding. The materials can include, but are not limited to, mulch, seed and mulch, and erosion control mats (e.g. jute twisted yarn, excelsior wood fiber mats).

Total Maximum Daily Loads (TMDLs) - A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. It is a calculation of the maximum amount of a pollutant that a waterbody can receive on a daily basis and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL stipulates wasteload allocations (WLAs) for point source discharges, load allocations (LAs) for nonpoint sources, and a margin of safety (MOS).

Trained Contractor - means an employee from the contracting (construction) company, identified in Part III.A.6., that has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the *trained contractor* shall receive four (4) hours of training every three (3) years.

It can also mean an employee from the contracting (construction) company, identified in Part III.A.6., that meets the *qualified inspector* qualifications (e.g. licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity).

The *trained contractor* will be responsible for the day to day implementation of the SWPPP.

Uniform Procedures Act (UPA) Permit - means a permit required under 6 NYCRR Part 621 of the Environmental Conservation Law (ECL), Article 70.

Water Quality Standard - means such measures of purity or quality for any waters in relation to their reasonable and necessary use as promulgated in 6 NYCRR Part 700 et seq.

APPENDIX B

Required SWPPP Components by Project Type

Table 1 CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT ONLY INCLUDES EROSION AND SEDIMENT CONTROLS

The following construction activities that involve soil disturbances of one (1) or more acres of land, but less than five (5) acres:

- Single family home <u>not</u> located in one of the watersheds listed in Appendix C and <u>not</u> *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions with 25% or less impervious cover at total site build-out and <u>not</u> located in one of the watersheds listed in Appendix C and <u>not</u> directly discharging to one of the 303(d) segments listed in Appendix E
- Construction of a barn or other agricultural building, silo, stock yard or pen.

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Installation of underground, linear utilities; such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains
- Environmental enhancement projects, such as wetland mitigation projects, stormwater retrofits and stream restoration projects
- Bike paths and trails
- Sidewalk construction projects that are not part of a road/ highway construction or reconstruction project
- Slope stabilization projects
- Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics
- Spoil areas that will be covered with vegetation
- Land clearing and grading for the purposes of creating vegetated open space (i.e. recreational parks, lawns, meadows, fields), excluding projects that *alter hydrology from pre to post development* conditions
- Athletic fields (natural grass) that do not include the construction or reconstruction of *impervious area* and do not alter hydrology from pre to post development conditions
- Demolition project where vegetation will be established and no redevelopment is planned
- Overhead electric transmission line project that does not include the construction of permanent access roads or parking areas surfaced with *impervious cover*
- Structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State", excluding projects that involve soil disturbances of less than five acres and construction activities that include the construction or reconstruction of impervious area

The following construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land:

• All construction activities located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land.

Table 2

CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Single family home located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions that involve soil disturbances of between one (1) and five (5) acres of land with greater than 25% impervious cover at total site build-out
- Single family residential subdivisions that involve soil disturbances of five (5) or more acres of land, and single family residential subdivisions that involve soil disturbances of less than five (5) acres that are part of a larger common plan of development or sale that will ultimately disturb five or more acres of land
- Multi-family residential developments; includes townhomes, condominiums, senior housing complexes, apartment complexes, and mobile home parks
- Airports
- Amusement parks
- Campgrounds
- Cemeteries that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Commercial developments
- Churches and other places of worship
- Construction of a barn or other agricultural building(e.g. silo) and structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State" that include the construction or reconstruction of *impervious area*, excluding projects that involve soil disturbances of less than five acres.
- Golf courses
- Institutional, includes hospitals, prisons, schools and colleges
- Industrial facilities, includes industrial parks
- Landfills
- Municipal facilities; includes highway garages, transfer stations, office buildings, POTW's and water treatment plants
- Office complexes
- Sports complexes
- Racetracks, includes racetracks with earthen (dirt) surface
- Road construction or reconstruction
- Parking lot construction or reconstruction
- Athletic fields (natural grass) that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Athletic fields with artificial turf
- Permanent access roads, parking areas, substations, compressor stations and well drilling pads, surfaced with *impervious cover*, and constructed as part of an over-head electric transmission line project, wind-power project, cell tower project, oil or gas well drilling project or other linear utility project
- All other construction activities that include the construction or reconstruction of *impervious area* and alter the hydrology from pre to post development conditions, and are not listed in Table 1

APPENDIX C

Watersheds Where Enhanced Phosphorus Removal Standards Are Required

Watersheds where *owners or operators* of construction activities identified in Table 2 of Appendix B must prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards included in the technical standard, New York State Stormwater Management Design Manual ("Design Manual").

- Entire New York City Watershed located east of the Hudson River Figure 1
- Onondaga Lake Watershed Figure 2
- Greenwood Lake Watershed -Figure 3
- Oscawana Lake Watershed Figure 4

Figure 1 - New York City Watershed East of the Hudson

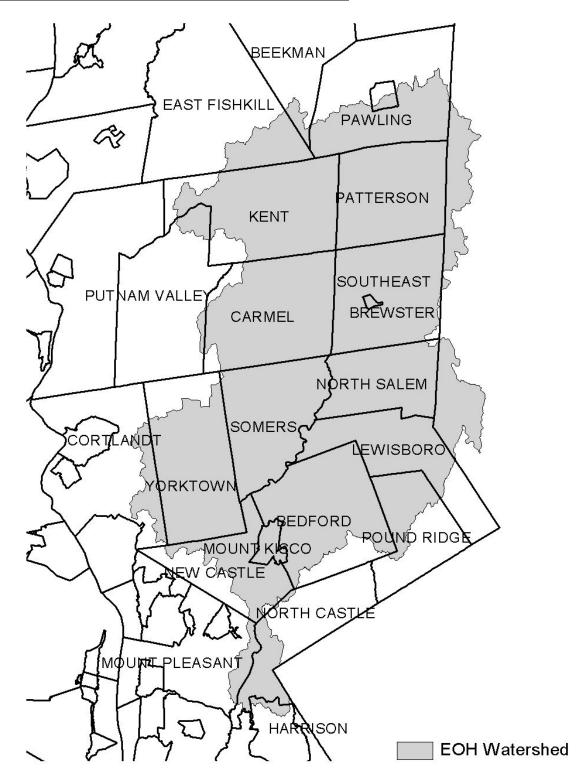


Figure 2 - Onondaga Lake Watershed



Figure 3 - Greenwood Lake Watershed

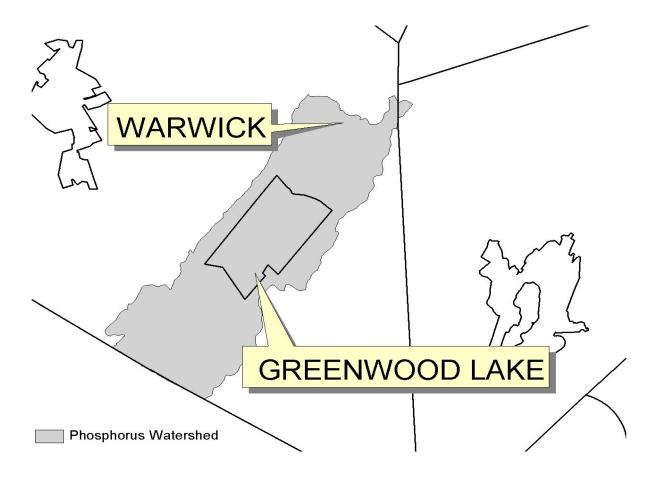
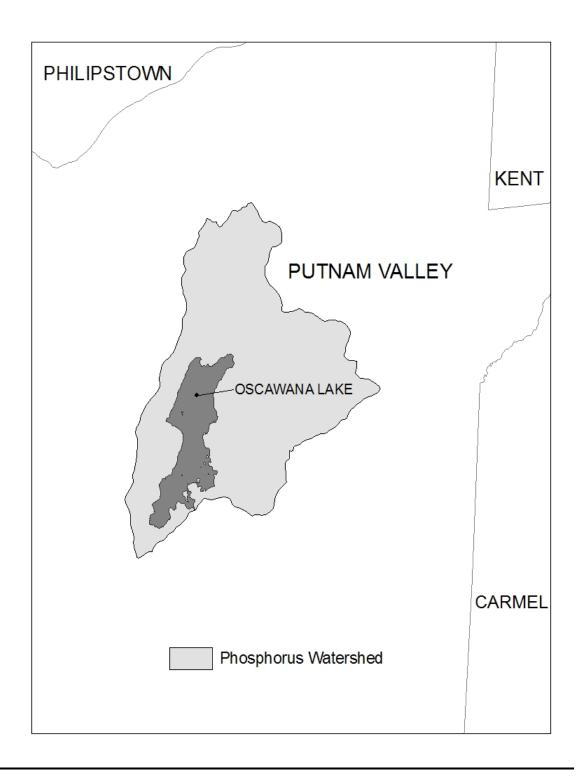


Figure 4 - Oscawana Lake Watershed



APPENDIX D

Watersheds where *owners or operators* of construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land must obtain coverage under this permit.

Entire New York City Watershed that is located east of the Hudson River - See Figure 1 in Appendix C

APPENDIX E

List of 303(d) segments impaired by pollutants related to construction activity (e.g. silt, sediment or nutrients). *Owners or operators* of single family home and single family residential subdivision construction activities that involve soil disturbances of one or more acres of land, but less than 5 acres, and *directly discharge* to one of the listed segments below shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the most current version of the technical standard, New York State Stormwater Management Design Manual ("Design Manual").

COUNTY	WATERBODY	COUNTY	WATERBODY
Albany	Ann Lee (Shakers) Pond, Stump Pond	Monroe	Genesee River, Lower, Main Stem
Albany	Basic Creek Reservoir	Monroe	Genesee River, Middle, Main Stem
Bronx	Van Cortlandt Lake	Monroe	Black Creek, Lower, and minor tribs
Broome	Whitney Point Lake/Reservoir	Monroe	Buck Pond
Broome	Beaver Lake	Monroe	Long Pond
Broome	White Birch Lake	Monroe	Cranberry Pond
Chautaugua	Chautauqua Lake, North	Monroe	Mill Creek and tribs
Chautauqua	Chautauqua Lake, South	Monroe	Shipbuilders Creek and tribs
Chautauqua	Bear Lake	Monroe	Minor tribs to Irondequoit Bay
Chautauqua	Chadakoin River and tribs	Monroe	Thomas Creek/White Brook and tribs
Chautauqua	Lower Cassadaga Lake	Nassau	Glen Cove Creek, Lower, and tribs
Chautauqua	Middle Cassadaga Lake	Nassau	LI Tribs (fresh) to East Bay
Chautauqua	Findley Lake	Nassau	East Meadow Brook, Upper, and tribs
Clinton	Great Chazy River, Lower, Main Stem	Nassau	Hempstead Bay
Columbia	Kinderhook Lake	Nassau	Hempstead Lake
Columbia	Robinson Pond	Nassau	Grant Park Pond
Dutchess	Hillside Lake	Niagara	Bergholtz Creek and tribs
Dutchess	Wappinger Lakes	Oneida	Ballou, Nail Creeks
Dutchess	Fall Kill and tribs	Onondaga	Ley Creek and tribs
Dutchess	Rudd Pond	Onondaga	Onondaga Creek, Lower and tribs
Erie	Rush Creek and tribs	Onondaga	Onondaga creek, Middle and tribs
Erie	Ellicott Creek, Lower, and tribs	Onondaga	Onondaga Creek, Upper, and minor tribs
Erie	Beeman Creek and tribs	Onondaga	Harbor Brook, Lower, and tribs
Erie	Murder Creek, Lower, and tribs	Onondaga	Ninemile Creek, Lower, and tribs
Erie	South Branch Smoke Cr, Lower, and tribs	Onondaga	Minor tribs to Onondaga Lake
Erie	Little Sister Creek, Lower, and tribs	Ontario	Honeoye Lake
Essex	Lake George (primary county listed as Warren)	Ontario	Hemlock Lake Outlet and minor tribs
Genesee	Black Creek, Upper, and minor tribs	Ontario	Great Brook and minor tribs
Genesee	Tonawanda Creek, Middle, Main Stem	Oswego	Lake Neatahwanta
Genesee	Tonawanda Creek, Upper, and minor tribs	Putnam	Oscawana Lake
Genesee	Little Tonawanda Creek, Lower, and tribs	Putnam	Lake Carmel
Genesee	Oak Orchard Creek, Upper, and tribs	Queens	Jamaica Bay, Eastern, and tribs (Queens)
Genesee	Bowen Brook and tribs	Queens	Bergen Basin
Genesee	Bigelow Creek and tribs	Queens	Shellbank Basin
Greene	Schoharie Reservoir	Rensselaer	Snyders Lake
Greene	Sleepy Hollow Lake	Richmond	Grasmere, Arbutus and Wolfes Lakes
Herkimer	Steele Creek tribs	Saratoga	Dwaas Kill and tribs
Kings	Hendrix Creek	Saratoga	Tribs to Lake Lonely
Lewis	Mill Creek/South Branch and tribs	Saratoga	Lake Lonely
Livingston	Conesus Lake	Saratoga	Schuyler Creek and tribs
Livingston	Jaycox Creek and tribs	Schenectady	Collins Lake
Livingston	Mill Creek and minor tribs		

List of 303(d) segments impaired by pollutants related to construction activity, cont'd.

APPENDIX E

COUNTY	WATERBODY	COUNTY	WATERBODY
Schoharie	Engleville Pond		
Schoharie	Summit Lake		
St. Lawrence	Black Lake Outlet/Black Lake		
Steuben	Lake Salubria		
Steuben	Smith Pond		
Suffolk	Millers Pond		
Suffolk	Mattituck (Marratooka) Pond		
Suffolk	Tidal tribs to West Moriches Bay		
Suffolk	Canaan Lake		
Suffolk	Lake Ronkonkoma		
Tompkins	Cayuga Lake, Southern End		
Tompkins	Owasco Inlet, Upper, and tribs		
Ulster	Ashokan Reservoir		
Ulster	Esopus Creek, Upper, and minor tribs		
Warren	Lake George		
Warren	Tribs to L.George, Village of L George		
Warren	Huddle/Finkle Brooks and tribs		
Warren	Indian Brook and tribs		
Warren	Hague Brook and tribs		
Washington	Tribs to L.George, East Shore of Lake George		
Washington	Cossayuna Lake		
Wayne	Port Bay		
Wayne	Marbletown Creek and tribs		
Westchester	Peach Lake		
Westchester	Mamaroneck River, Lower		
Westchester	Mamaroneck River, Upper, and minor tribs		
Westchester	Sheldrake River and tribs		
Westchester	Blind Brook, Lower		
Westchester	Blind Brook, Upper, and tribs		
Westchester	Lake Lincolndale		
Westchester	Lake Meahaugh		
Wyoming	Java Lake		
Wyoming	Silver Lake		

Note: The list above identifies those waters from the final New York State "2008 Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy", dated May 26, 2008, that are impaired by silt, sediment or nutrients.

APPENDIX F

LIST OF NYS DEC REGIONAL OFFICES

Region	COVERING THE FOLLOWING COUNTIES:	DIVISION OF ENVIRONMENTAL PERMITS (DEP) PERMIT ADMINISTRATORS	DIVISION OF WATER (DOW) WATER (SPDES) PROGRAM
1	NASSAU AND SUFFOLK	50 CIRCLE ROAD STONY BROOK, NY 11790 TEL. (631) 444-0365	50 CIRCLE ROAD STONY BROOK, NY 11790-3409 Tel. (631) 444-0405
2	BRONX, KINGS, NEW YORK, QUEENS AND RICHMOND	1 HUNTERS POINT PLAZA, 47-40 21ST ST. LONG ISLAND CITY, NY 11101-5407 TEL. (718) 482-4997	1 HUNTERS POINT PLAZA, 47-40 21ST ST. LONG ISLAND CITY, NY 11101-5407 TEL. (718) 482-4933
3	DUTCHESS, ORANGE, PUTNAM, ROCKLAND, SULLIVAN, ULSTER AND WESTCHESTER	21 SOUTH PUTT CORNERS ROAD NEW PALTZ, NY 12561-1696 Tel. (845) 256-3059	100 HILLSIDE AVENUE, SUITE 1W WHITE PLAINS, NY 10603 TEL. (914) 428 - 2505
4	ALBANY, COLUMBIA, DELAWARE, GREENE, MONTGOMERY, OTSEGO, RENSSELAER, SCHENECTADY AND SCHOHARIE	1150 NORTH WESTCOTT ROAD SCHENECTADY, NY 12306-2014 Tel. (518) 357-2069	1130 NORTH WESTCOTT ROAD SCHENECTADY, NY 12306-2014 TEL. (518) 357-2045
5	CLINTON, ESSEX, FRANKLIN, FULTON, HAMILTON, SARATOGA, WARREN AND WASHINGTON	1115 STATE ROUTE 86, PO BOX 296 RAY BROOK, NY 12977-0296 TEL. (518) 897-1234	232 GOLF COURSE ROAD, PO BOX 220 WARRENSBURG, NY 12885-0220 TEL. (518) 623-1200
6	HERKIMER, JEFFERSON, LEWIS, ONEIDA AND ST. LAWRENCE	STATE OFFICE BUILDING 317 WASHINGTON STREET WATERTOWN, NY 13601-3787 TEL. (315) 785-2245	STATE OFFICE BUILDING 207 GENESEE STREET UTICA, NY 13501-2885 TEL. (315) 793-2554
7	BROOME, CAYUGA, CHENANGO, CORTLAND, MADISON, ONONDAGA, OSWEGO, TIOGA AND TOMPKINS	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7438	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7500
8	CHEMUNG, GENESEE, LIVINGSTON, MONROE, ONTARIO, ORLEANS, SCHUYLER, SENECA, STEUBEN, WAYNE AND YATES	6274 EAST AVON-LIMA ROAD AVON, NY 14414-9519 TEL. (585) 226-2466	6274 EAST AVON-LIMA RD. AVON, NY 14414-9519 TEL. (585) 226-2466
9	ALLEGANY, CATTARAUGUS, CHAUTAUQUA, ERIE, NIAGARA AND WYOMING	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7165	270 MICHIGAN AVE. BUFFALO, NY 14203-2999 TEL. (716) 851-7070



New York State Department of Environmental Conservation Division of Water 625 Broadway, 4th Floor Albany, New York 12233-3505

MS4 Stormwater Pollution Prevention Plan (SWPPP) Acceptance Form

for

Construction Activities Seeking Authorization Under SPDES General Permit *(NOTE: Attach Completed Form to Notice Of Intent and Submit to Address Above)

I. Project Owner/Operator Info

1. Owner/Operator Name: Trinity Presbyterian Church

2. Contact Person:

3. Street Address: 15 Elm Place

4. City/State/Zip: Rye, New York 10580

II. Project Site Information

5. Project/Site Name: Trinity Presbyterian Church

6. Street Address: 526-530 Anderson Hill Road

7. City/State/Zip: Purchase, New York 10577

III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information

8. SWPPP Reviewed by:

9. Title/Position:

10. Date Final SWPPP Reviewed and Accepted:

IV. Regulated MS4 Information

11. Name of MS4: Town of Harrison Department of Public Works

12. MS4 SPDES Permit Identification Number: NYR20A

13. Contact Person:

14. Street Address:

15. City/State/Zip:

16. Telephone Number:

(NYS DEC - MS4 SWPPP Acceptance Form - January 2010)

MS4 SWPPP Acceptance Form - continued
V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative
I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in question 5 has been reviewed and meets the substantive requirements in the SPDES General Permit For Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s). Note: The MS4, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.
Printed Name:
Title/Position:
Signature:
Date:
VI. Additional Information

NOTICE OF INTENT



New York State Department of Environmental Conservation Division of Water

625 Broadway, 4th Floor Albany, New York 12233-3505

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(for DEC use only)

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-10-001 All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.

-IMPORTANTRETURN THIS FORM TO THE ADDRESS ABOVE

OWNER/OPERATOR MUST SIGN FORM

Owner/Operator Information															
Owner/Operator (Company	Owner/Operator (Company Name/Private Owner Name/Municipality Name)														
Owner/Operator Contact F	Person Last Name (NOT CON	NSULTANT)													
Owner/Operator Contact Person First Name															
Owner/Operator Mailing A	Address														
City															
State Zip	-														
Phone (Owner/Operator)	Fax (Owner/Op	erator)													
Email (Owner/Operator)															
FED TAX ID															
	(not required for individual	duals)													

Project Site Information
Project/Site Name
Street Address (NOT P.O. BOX)
Side of Street O North O South O East O West
City/Town/Village (THAT ISSUES BUILDING PERMIT)
State Zip County DEC Region
Name of Nearest Cross Street
Distance to Nearest Cross Street (Feet) Project In Relation to Cross Street North O South O East O West
Tax Map Numbers Section-Block-Parcel Tax Map Numbers Under the section of the s
1. Provide the Geographic Coordinates for the project site in NYTM Units. To do this you <u>must</u> go to the NYSDEC Stormwater Interactive Map on the DEC website at:
www.dec.ny.gov/imsmaps/stormwater/viewer.htm
Zoom into your Project Location such that you can accurately click on the centroid of your site. Once you have located your project site, go to the tool boxes on the top and choose "i"(identify). Then click on the center of your site and a new window containing the X, Y coordinates in UTM will pop up. Transcribe these coordinates into the boxes below. For problems with the interactive map use the help function.
X Coordinates (Easting) Y Coordinates (Northing)
2. What is the nature of this construction project?
O New Construction
O Redevelopment with increase in impervious area
O Redevelopment with no increase in impervious area

3. Select the predominant land use for both pre and post development conditions. SELECT ONLY ONE CHOICE FOR EACH

Pre-Development Existing Land Use	Post-Development Future Land Use										
○ FOREST	O SINGLE FAMILY HOME Number of Lots										
O PASTURE/OPEN LAND	O SINGLE FAMILY SUBDIVISION										
○ CULTIVATED LAND	O TOWN HOME RESIDENTIAL										
○ SINGLE FAMILY HOME	O MULTIFAMILY RESIDENTIAL										
○ SINGLE FAMILY SUBDIVISION	○ INSTITUTIONAL/SCHOOL										
O TOWN HOME RESIDENTIAL	○ INDUSTRIAL										
○ MULTIFAMILY RESIDENTIAL	○ COMMERCIAL										
○ INSTITUTIONAL/SCHOOL	O MUNICIPAL										
○ INDUSTRIAL	○ ROAD/HIGHWAY										
○ COMMERCIAL	○ RECREATIONAL/SPORTS FIELD										
○ ROAD/HIGHWAY	O BIKE PATH/TRAIL										
O RECREATIONAL/SPORTS FIELD	○ LINEAR UTILITY (water, sewer, gas, etc.)										
○ BIKE PATH/TRAIL	O PARKING LOT										
○ LINEAR UTILITY	O CLEARING/GRADING ONLY										
O PARKING LOT	O DEMOLITION, NO REDEVELOPMENT										
○ OTHER	○ WELL DRILLING ACTIVITY *(Oil, Gas, etc.)										
	OTHER										
*Note: for gas well drilling, non-high volume	hydraulic fractured wells only										
4. In accordance with the larger common plan of enter the total project site area; the total existing impervious area to be disturbed (factivities); and the future impervious area disturbed area. (Round to the nearest tenth	l area to be disturbed; for redevelopment constructed within the of an acre.)										
	Future Impervious ing Impervious Area Within To Be Disturbed Disturbed Area										
5. Do you plan to disturb more than 5 acres of	soil at any one time? O Yes O No										
6. Indicate the percentage of each Hydrologic A B B	Soil Group(HSG) at the site. C D %										
7. Is this a phased project?	\bigcirc Yes \bigcirc No										
8. Enter the planned start and end dates of the disturbance activities.	te										

area?

/	ntify the nearest surface waterbody(ies) to charge.	which construction site	e runoff will									
Name												
Name				П								
				ᅦ								
9a.	Type of waterbody identified in Question 9?											
9	cland / State Jurisdiction On Site (Answer 9	9b)										
○ Wetland / State Jurisdiction Off Site												
○ Wet	cland / Federal Jurisdiction On Site (Answer	9b)										
○ Wet	cland / Federal Jurisdiction Off Site											
○ Sti	ream / Creek On Site											
○ Sti	ream / Creek Off Site											
○ Riv	ver On Site		:: E:									
○ Riv	ver Off Site	. How was the wetland	identified?									
○ Lal	ce On Site	○ Regulatory Map										
○ Lal	ce Off Site	O Delineated by Consul	ltant									
○ Oth	ner Type On Site	O Delineated by Army (Corps of Enginee	rs								
O oth	ner Type Off Site	Other (identify)										
				,								
	Has the surface waterbody(ies) in question 9 303(d) segment in Appendix E of GP-0-10-0019		\bigcirc Yes \bigcirc No									
	505(a, begineine in hppenaix i of of 0 to 001)											
11.	Is this project located in one of the Waters	sheds identified in	0 0									
	Appendix C of GP-0-10-001?		○ Yes ○ No									
1.0		1										
	Is the project located in one of the watersh areas associated with AA and AA-S classified		○ Yes ○ No									
	waters?											
	If no, skip question 13.											
	Does this construction activity disturb land											
	existing impervious cover and where the Soil identified as an E or F on the USDA Soil Su		○ Yes ○ No									
	If Yes, what is the acreage to be disturbed?											
	Will the project disturb soils within a Stater		○ Yes ○ No									
	regulated welland or line profected 100 TOOF	au iacem	CALES CANO									

15.	Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)?	No	○ Unknown												
16.	What is the name of the municipality/entity that owns the separate storm sewer system?														
17.	. Does any runoff from the site enter a sewer classified O Yes O No O Unknown as a Combined Sewer?														
18.	Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law?														
19.	Is this property owned by a state authority, state agency, federal government or local government?														
20.	Is this a remediation project being done under a Department approved work plan? (i.e. CERCLA, RCRA, Voluntary Cleanup Yes O No Agreement, etc.)														
21.	Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Yes O No Standards and Specifications for Erosion and Sediment Control (aka Blue Book)?														
22.	Does this construction activity require the development of a SWPPP that includes the post-construction stormwater management practice component (i.e. Runoff Reduction, Water Quality and Quantity Control practices/techniques)? If No, skip questions 23 and 27-39.	0.3	Yes O No												
23.	Has the post-construction stormwater management practice component of the SWPPP been developed in conformance with the current NYS Stormwater Management Design Manual?	0.	Yes O No												

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(O Professional Engineer (P.E.)																																			
(O Soil and Water Conservation District (SWCD)																																			
(O Registered Landscape Architect (R.L.A)																																			
O Certified Professional in Erosion and Sediment Control (CPESC)																																				
Owner/Operator																																				
Other																																				
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SWPPP Preparer Certification

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-10-001. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

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			O Stabilized Construction Entrance														O Vegetating Waterways																																	
			O Storm Drain Inlet Protection														Permanent Structural																																	
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Post-construction Stormwater Management Practice (SMP) Requirements

Important: Completion of Questions 27-39 is not required
 if response to Question 22 is No.

- 27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.
 - O Preservation of Undisturbed Areas
 - O Preservation of Buffers
 - O Reduction of Clearing and Grading
 - O Locating Development in Less Sensitive Areas
 - O Roadway Reduction
 - O Sidewalk Reduction
 - O Driveway Reduction
 - O Cul-de-sac Reduction
 - O Building Footprint Reduction
 - O Parking Reduction
- 27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual (2010 version).
 - O All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).
 - O Compacted areas were considered as impervious cover when calculating the **WQv Required**, and the compacted areas were assigned a post-construction Hydrologic Soil Group (HSG) designation that is one level less permeable than existing conditions for the hydrology analysis.
- 28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout).

Total	$\mathbf{W}\mathbf{Q}\mathbf{v}$	Requ	ired	
			a	cre-feet

29. Identify the RR techniques (Area Reduction), RR techniques(Volume Reduction) and Standard SMPs with RRv Capacity in Table 1 (See Page 9) that were used to reduce the Total WQv Required(#28).

Also, provide in Table 1 the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

Note: Redevelopment projects shall use Tables 1 and 2 to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SMPs.

Table 1 - Runoff Reduction (RR) Techniques and Standard Stormwater Management Practices (SMPs)

	Total Contributing		rota	I Cor	ıtr	`1bu	ting
RR Techniques (Area Reduction)	Area (acres)	Im	erv	ious	Ar	ea(acres)
○ Conservation of Natural Areas (RR-1)		and/or					
O Sheetflow to Riparian Buffers/Filters Strips (RR-2)		and/or					
○ Tree Planting/Tree Pit (RR-3)		and/or			•		
O Disconnection of Rooftop Runoff (RR-4)		and/or			•		
RR Techniques (Volume Reduction)							
\bigcirc Vegetated Swale (RR-5) $\cdots\cdots$	• • • • • • • • • • • • • • • • • • • •	• • • • •			•		
○ Rain Garden (RR-6) ······	• • • • • • • • • • • • • • • • • • • •	• • • • •			•		
○ Stormwater Planter (RR-7)	• • • • • • • • • • • • • • • • • • • •				•		
○ Rain Barrel/Cistern (RR-8)	• • • • • • • • • • • • • • • • • • • •				•		
O Porous Pavement (RR-9)	• • • • • • • • • • • • • • • • • • • •				_إ•		
○ Green Roof (RR-10)		• • • • •					
Standard SMPs with RRv Capacity							
○ Infiltration Trench (I-1) ······	• • • • • • • • • • • • • • • • • • • •						
O Infiltration Basin (I-2) ······					•		
Opry Well (I-3)							
O Underground Infiltration System (I-4)							
O Bioretention (F-5) ······							
Opry Swale (0-1)					.[
Standard SMPs							
O Micropool Extended Detention (P-1)	• • • • • • • • • • • • • • • • • • • •						
○ Wet Pond (P-2) · · · · · · · · · · · · · · · · · · ·	• • • • • • • • • • • • • • • • • •	• • • • •			•		
○ Wet Extended Detention (P-3) ······	• • • • • • • • • • • • • • • • • • • •	• • • • •					
O Multiple Pond System (P-4)	• • • • • • • • • • • • • • • • • • •	• • • • •					
O Pocket Pond (P-5) ·····		• • • • •					
○ Surface Sand Filter (F-1) ······	• • • • • • • • • • • • • • • • • • • •						
○ Underground Sand Filter (F-2) ······	• • • • • • • • • • • • • • • • • • •						
O Perimeter Sand Filter (F-3) ······	• • • • • • • • • • • • • • • • • • •						
Organic Filter (F-4)					.[
○ Shallow Wetland (W-1)							
O Extended Detention Wetland (W-2)							
○ Pond/Wetland System (W-3)							
O Pocket Wetland (W-4)							
○ Wet Swale (0-2)							

Table 2 -Alternative SMPs (DO NOT INCLUDE PRACTICES BEING USED FOR PRETREATMENT ONLY) Total Contributing Alternative SMP Impervious Area(acres) ○ Hydrodynamic \bigcirc Wet Vault O Media Filter Other Provide the name and manufacturer of the Alternative SMPs (i.e. proprietary practice(s)) being used for WQv treatment. Name Manufacturer Note: Redevelopment projects which do not use RR techniques, shall use questions 28, 29, 33 and 33a to provide SMPs used, total WQv required and total WQv provided for the project. 30. Indicate the Total RRv provided by the RR techniques (Area/Volume Reduction) and Standard SMPs with RRv capacity identified in question 29. Total RRv provided acre-feet 31. Is the Total RRv provided (#30) greater than or equal to the total WQv required (#28). O Yes O No If Yes, go to question 36. If No, go to question 32. 32. Provide the Minimum RRv required based on HSG. [Minimum RRv Required = (P)(0.95)(Ai)/12, Ai=(S)(Aic)] Minimum RRv Required acre-feet 32a. Is the Total RRv provided (#30) greater than or equal to the O Yes O No Minimum RRv Required (#32)? If Yes, go to question 33. Note: Use the space provided in question #39 to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). A detailed evaluation of the specific site limitations and justification for not reducing 100% of the WQv required (#28) must also be included in the If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

Identify the Standard SMPs in Table 1 and, if applicable, the Alternative SMPs in Table 2 that were used to treat the remaining total WQv(=Total WQv Required in 28 - Total RRv Provided in 30). Also, provide in Table 1 and 2 the total impervious area that contributes runoff to each practice selected. Note: Use Tables 1 and 2 to identify the SMPs used on Redevelopment projects. 33a. Indicate the Total WQv provided (i.e. WQv treated) by the SMPs identified in question #33 and Standard SMPs with RRv Capacity identified in question 29. WQv Provided acre-feet Note: For the standard SMPs with RRv capacity, the WQv provided by each practice = the WQv calculated using the contributing drainage area to the practice - RRv provided by the practice. (See Table 3.5 in Design Manual) 34. Provide the sum of the Total RRv provided (#30) and the WQv provided (#33a). Is the sum of the RRv provided (#30) and the WQv provided 35. (#33a) greater than or equal to the total WQv required (#28)? O Yes O No If Yes, go to question 36. If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria. Provide the total Channel Protection Storage Volume (CPv) required and 36. provided or select waiver (36a), if applicable. CPv Required CPv Provided acre-feet acre-feet 36a. The need to provide channel protection has been waived because: O Site discharges directly to tidal waters or a fifth order or larger stream. O Reduction of the total CPv is achieved on site through runoff reduction techniques or infiltration systems. 37. Provide the Overbank Flood (Qp) and Extreme Flood (Qf) control criteria or select waiver (37a), if applicable. Total Overbank Flood Control Criteria (Qp) Pre-Development Post-development CFS CFS Total Extreme Flood Control Criteria (Qf) Post-development Pre-Development

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37a.	O Site discharges directly to tidal waters or a fifth order or larger stream. O Downstream analysis reveals that the Qp and Qf controls are not required																					
38.	Has a long term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed? If Yes, Identify the entity responsible for the long term Operation and Maintenance																					
	Operation and Maintenance																					
														ļ								
39.	for	no	ot re	duci	.ng 1	L00%	of V	VQV	he sp requi	ired	(#28	3). (See	que	stio	n 32	2a)		icat	tion	1	

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40.	Identify other DEC permits, existing and new, that are required for the project/facility.	iis	
	O Air Pollution Control		
	○ Coastal Erosion		
	○ Hazardous Waste		
	○ Long Island Wells		
	○ Mined Land Reclamation		
	○ Solid Waste		
	O Navigable Waters Protection / Article 15		
	○ Water Quality Certificate		
	○ Dam Safety		
	○ Water Supply		
	○ Freshwater Wetlands/Article 24		
	O Tidal Wetlands		
	O Wild, Scenic and Recreational Rivers		
	O Stream Bed or Bank Protection / Article 15		
	○ Endangered or Threatened Species(Incidental Take Permit)		
	○ Individual SPDES		
	○ SPDES Multi-Sector GP		
	Other Other		
	○ None		
41.	Does this project require a US Army Corps of Engineers Wetland Permit? If Yes, Indicate Size of Impact.	○ Yes	O No
42.	Is this project subject to the requirements of a regulated, traditional land use control MS4? (If No, skip question 43)	O Yes	O No
43.	Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI?	O Yes	O No
44.	If this NOI is being submitted for the purpose of continuing or transf coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned.		

Owner/Operator Certification

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I hereby certify that this document and the corresponding documents were prepared under my direction or supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) business days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction, and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

MI
Data
Date



New York State Department of Environmental Conservation Division of Water

625 Broadway, 4th Floor Albany, New York 12233-3505

(NOTE: Submit completed form to address above)

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity

under the 51 DES General Termit for Construction Activity			
Please indicate your permit identification number: NYR			
I. Owner or Operator Information			
1. Owner/Operator Name: Trinity Presbyterian Church			
2. Street Address: 15 Elm Place			
3. City/State/Zip: Rye, New York 10580			
4. Contact Person:	4a.Telephone:		
5. Contact Person E-Mail:			
II. Project Site Information			
5. Project/Site Name: Trinity Presbyterian Church			
6. Street Address: 526-530 Anderson Hill Road			
7. City/Zip: Purchase, New York 10577			
8. County: Westchester			
III. Reason for Termination			
9a. ☐ All disturbed areas have achieved final stabilization in accordanc *Date final stabilization completed (month/year):	e with the general permit and SWPPP.		
9b. Permit coverage has been transferred to new owner/operator. Incidentification number: NYR	<u> </u>		
9c. □ Other (Explain on Page 2)			
IV. Final Site Information:			
10a. Did this construction activity require the development of a SWPP stormwater management practices? ☐ yes ☐ no (If no, go to	P that includes post-construction o question 10f.)		
10b. Have all post-construction stormwater management practices included in the final SWPPP been constructed? ☐ yes ☐ no (If no, explain on Page 2)			
10c. Identify the entity responsible for long-term operation and maintenance of practice(s)?			

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the **SPDES General Permit for Construction Activity - continued** 10d. Has the entity responsible for long-term operation and maintenance been given a copy of the operation and maintenance plan required by the general permit? \Box yes 10e. Indicate the method used to ensure long-term operation and maintenance of the post-construction stormwater management practice(s): ☐ Post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain practice(s) have been deeded to the municipality. ☐ Executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s). ☐ For post-construction stormwater management practices that are privately owned, the deed of record has been modified to include a deed covenant that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan. ☐ For post-construction stormwater management practices that are owned by a public or private institution (e.g. school, college, university), or government agency or authority, policy and procedures are in place that ensures operation and maintenance of the practice(s) in accordance with the operation and maintenance plan. 10f. Provide the total area of impervious surface (i.e. roof, pavement, concrete, gravel, etc.) constructed within the disturbance area? 11. Is this project subject to the requirements of a regulated, traditional land use control MS4? \Box yes \Box no (If Yes, complete section VI - "MS4 Acceptance" statement V. Additional Information/Explanation: (Use this section to answer questions 9c. and 10b., if applicable) VI. MS4 Acceptance - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative (Note: Not required when 9b. is checked -transfer of coverage) I have determined that it is acceptable for the owner or operator of the construction project identified in question 5 to submit the Notice of Termination at this time. Printed Name: Title/Position: Signature: Date:

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity - continued

VII. Qualified Inspector Certification - Final Stabilization:

I hereby certify that all disturbed areas have achieved final stabilization as defined in the current version of the general permit, and that all temporary, structural erosion and sediment control measures have been removed. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.			
Printed Name:			
Title/Position:			
Signature:	Date:		
VIII. Qualified Inspector Certification - Post-construction Stormwater Man	nagement Practice(s):		
I hereby certify that all post-construction stormwater management practices have been constructed in conformance with the SWPPP. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.			
Printed Name:			
Title/Position:			
Signature:	Date:		
IX. Owner or Operator Certification			
I hereby certify that this document was prepared by me or under my direction or supervision. My determination, based upon my inquiry of the person(s) who managed the construction activity, or those persons directly responsible for gathering the information, is that the information provided in this document is true, accurate and complete. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.			
Printed Name:			
Title/Position:			
Signature:	Date:		

(NYS DEC Notice of Termination - January 2010)



FREDERICK P. CLARK ASSOCIATES, INC.

PLANNING, TRANSPORTATION, ENVIRONMENT AND DEVELOPMENT RYE, NEW YORK FAIRFIELD, CONNECTICUT

RYE

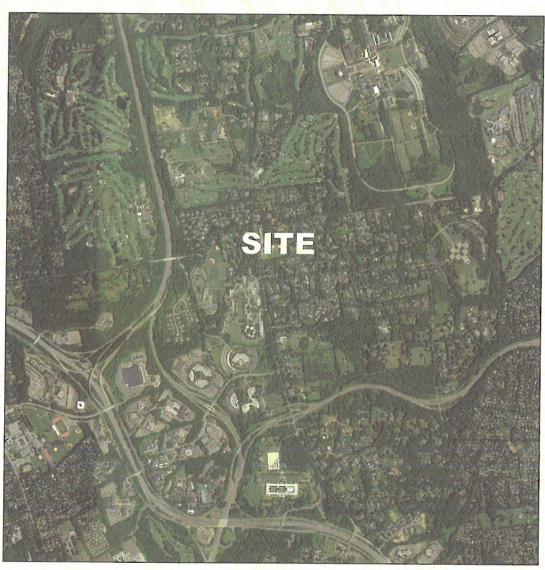
FAIRFIELD

HUDSON VALLEY

LONG ISLAND

TRAFFIC ACCESS & IMPACT STUDY

Trinity Presbyterian Church 526 – 530 Anderson Hill Road Purchase, New York



Prepared for:
Trinity Presbyterian Church



FREDERICK P. CLARK ASSOCIATES, INC.

PLANNING, TRANSPORTATION, ENVIRONMENT AND DEVELOPMENT RYE, NEW YORK FAIRFIELD, CONNECTICUT

RYE

FAIRFIELD

HUDSON VALLEY

LONG ISLAND

TRAFFIC ACCESS & IMPACT STUDY

Trinity Presbyterian Church 526 – 530 Anderson Hill Road Purchase, New York

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FREDERICK P. CLARK ASSOCIATES, INC.

PLANNING, TRANSPORTATION, ENVIRONMENT AND DEVELOPMENT RYE, NEW YORK FAIRFIELD, CONNECTICUT

September 3, 2014

Reverend A. Craig Chapman Senior Associate Pastor Trinity Presbyterian Church 15 Elm Place Rye, New York 10580

Dear Reverend Chapman:

As requested, we are pleased to submit this Traffic Report, which provides a detailed analysis of the proposed Church, to be located at 526-530 Anderson Hill Road in the Purchase section of the Village/Town of Harrison, New York. This analysis is based on a Church seating capacity of 200 seats, with associated office and meeting room space.

The proposal is to provide two, full-movement, access drives to Anderson Hill Road to serve the new Church. The results of the analysis indicate that site traffic generation during the typical weekday morning and afternoon peak hours, as they relate to peak periods along Anderson Hill Road and nearby roadways, will be minimal. A majority of the site-generated will occur on Sunday mornings for the arrivals for services and the departures after services and classes. It is estimated the Church, with 200 seats occupied, will generate 72 and 45 vehicle trip ends during the Sunday service arrival and Sunday class departure peak hours, respectively. This is based on actual traffic counts.

The findings of the analysis indicate that area roadways along Anderson Hill Road and upstream signalized intersections and at the proposed site access drives will operate at acceptable Levels of Service and with minimal traffic delay. Based on the results of the analyses, no off-site road improvements or modifications to traffic control or pavement markings will be needed.

Sincerely,

Michael A. Galante

Executive Vice President

Muhaal A. Felte

Enclosure

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SUMMARY

A Traffic Report is required by the Village/Town of Harrison to evaluate the potential traffic impacts of this proposed Church on adjacent roadways and nearby intersections. The site is located at 526-530 Anderson Hill Road in Purchase. The Church is expected to be completed and fully occupied by 2016.

This Traffic Study addresses traffic conditions for the 2014 existing, 2016 no-build and build peak hours for the weekday morning and weekday afternoon peak periods of the adjacent street system and Sunday peak hour of the Church. The existing traffic volumes were seasonally adjusted using New York State Department of Transportation (NYSDOT) data from a permanent location on Anderson Hill Road between Westchester Avenue and Purchase Street (NYS Route 120). The traffic analysis includes all other planned and approved developments in the vicinity of the Study Area.

The Proposed Action will consist of a 200-seat Church with office space and meeting space. Site access will be two full-movement access drives to Anderson Hill Road both west and east of Harrows Lane.

Origin-Destination and activity surveys were conducted by both the Applicant and representatives of Frederick P. Clark Associates at the current location where services are held. It includes the zip code of the driver, vehicle occupancy and number of members that remain for the class after the Sunday service. Also, the development program was provided by the Applicant. Many of the weekday activities occur outside the peak hours of the adjacent roadway system, when traffic is lower. It is anticipated that the proposed development will generate 6, 7, 72 and 45 vehicle trip ends during the weekday morning, weekday afternoon, Sunday service arrivals and Sunday class departure peak hours, respectively.

This site traffic generation was compared to Institute of Transportation Engineers (ITE) trip generation rates, which estimates that this site would generate 2, 2, 61 and 38 vehicle trip ends during the weekday morning, weekday afternoon, Sunday service arrivals and Sunday class departure peak hours, respectively. This is lower than the site traffic generation calculated using the development program; so, the analysis should be considered conservative.

This traffic added to area roads will result in an insignificant traffic impact to the overall operation of the nearby signalized intersections and the unsignalized intersection of Harrows Lane. Based on results of the analysis, the two existing access drives will operate at acceptable Levels of Service.

INTRODUCTION

This report has been prepared for submission to the Village/Town of Harrison to identify potential impacts and need for mitigation, if any, for the proposed Church. The development will be located at 526-530 Anderson Hill Road in the Purchase section of the Village/Town of Harrison, New York.

It addresses typical weekday morning and afternoon peak hours of the adjacent roadways and Sunday peak hours of the Church to determine potential impact to adjacent and nearby roadways. The Study includes current roadway conditions, existing traffic volumes, accident experience, site traffic generation, assignment of this traffic and future build traffic volumes.

Project Description

The proposal is to build a 200-seat Church, office space and meeting space. Site access will be two full-movement access drives to Anderson Hill Road both west and east of Harrows Lane. For purposes of completing this Traffic Study, it is assumed the design year will be the end of 2016.

EXISTING CONDITIONS

This section of the Traffic Report includes a description of the roadway inventory, nearby intersections, the results of recent traffic counts, seasonal adjustments, traffic control, accident experience, capacity analysis procedures and results of these analyses.

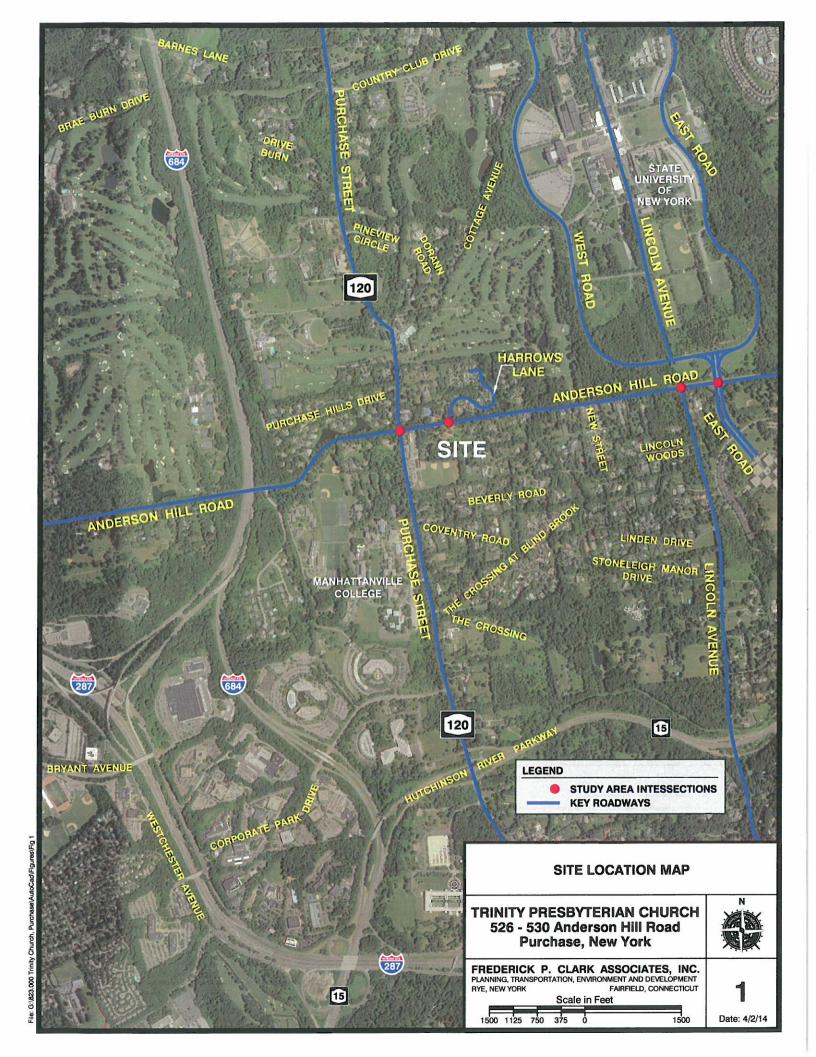
Roadways

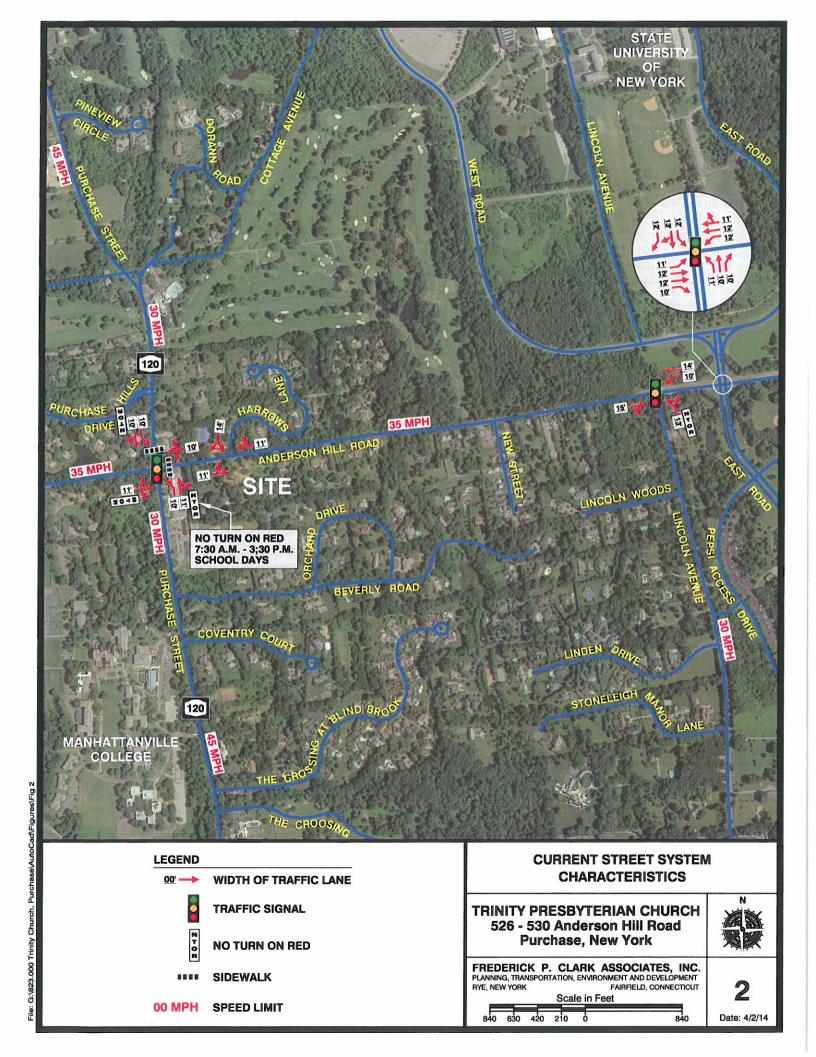
As noted above the site is located at 526-530 Anderson Hill Road. The following is a description of nearby roadways:

1. Anderson Hill Road – This is generally an east-west, two-lane, County-maintained roadway, also designated County Route 18. It begins to the west with the intersections with Westchester Avenue east/westbound. It continues past the site into the Village of Rye Brook where it terminates at the signalized intersection with King Street, which is located in Greenwich, Connecticut. It has a posted speed limit of 35 miles per hour in the Study Area. There is a sidewalk provided on the southerly side of the road, between Purchase Street and Lincoln Avenue. A double yellow centerline is provided in the Study Area. Land uses include commercial and residential. Lane widths in front of the site are 11 feet. On-street parking is prohibited near the site. There are parking areas along the northerly side in the vicinity of the commercial developments along the southerly side of the road. There are traffic signals provided at the intersections with Purchase Street, Lincoln Avenue and SUNY Purchase Access Drive/PepsiCo Access Drive. The traffic signal at Purchase Street is owned and maintained by NYSDOT. The traffic signals at Lincoln Avenue and SUNY Purchase Access Drive/PepsiCo Access Drive are owned and operated by Westchester County. Bee-Line bus route 12 have stops in the Study Area. Land uses include some residential and commercial developments.

- 2. Purchase Street This is generally a north-south, two-lane, State-maintained, roadway, which is also designated NYS Route 120. It begins at the signalized intersection with King Street, also designated NYS Route 120A, to the north and continues south through the Study Area to where it terminates at the traffic signalized intersection with Westchester Avenue. It has posted speed limit of 30 miles per hour in the Study Area. It provides a double yellow centerline in the Study Area. Sidewalks are provided along the easterly side of the road from the Purchase Elementary School to the Purchase Community House. Land uses include mostly residential with some commercial developments and education institutes in the Study Area.
- 3. *Harrows Lane* This is generally a north-south, two-lane, privately-maintained, roadway. It serves the gated residential development to the north of Anderson Hill Road. It intersection Anderson Hill Road at a STOP controlled intersection.
- 4. SUNY Purchase Access Drive This is generally a north-south, privately-maintained, roadway. It provides a three-lane approach to Anderson Hill Road and two-lanes entering from Anderson Hill Road. It begins at the signalized intersection with Anderson Hill Road to the south and continues north to where it intersects the East/West Road. It provides a center raised median and Bus Stops along both the easterly and westerly side.
- 5. PepsiCo Access Drive This is generally a north-south, privately-maintained, roadway. It provides a three-lane approach to Anderson Hill Road and one-lane entering from Anderson Hill Road. It begins at the signalized intersection with Anderson Hill Road to the south and continues south into the PepsiCo complex. It provides a center raised median.

Figure 1 provides a graphic illustration of the site's location and area roadways. Figure 2 provides a graphic illustration of the current street system characteristics, as





described above. Figure 3 provides sidewalks, on-street parking regulations and public transportation.

Traffic Volumes

To complete this Traffic Study it was necessary to conduct traffic volume counts at the signalized intersections near the subject property and the residential access drives across from the site during the weekday morning and weekday afternoon peak hours and Sunday peak hours of the site. The following intersections were included in the traffic counting program:

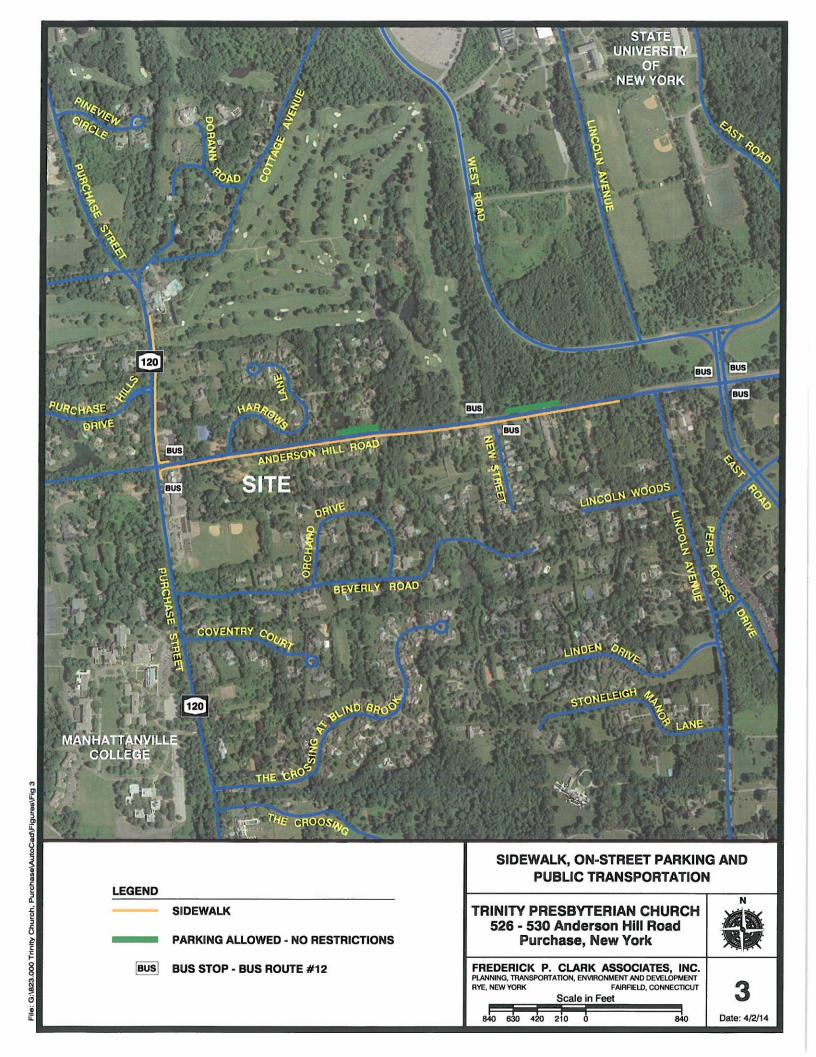
- Anderson Hill Road at Purchase Street (NYS Route 120);
- Anderson Hill Road at Harrows Lane;
- Anderson Hill Road at Lincoln Avenue; and,
- Anderson Hill Road at SUNY Purchase Access Drive/PepsiCo Access Drive.

The traffic counts were conducted by representatives of Frederick P. Clark Associates, Inc. on Tuesday, April 1, 2014 and Sunday, April 6, 2014 during the following time periods:

- Weekday morning 7:00 to 9:00 A.M.;
- Weekday afternoon -4:00 to 6:00 P.M.; and,
- Sunday 9:00 A.M. to 1:00 P.M.

Based on the results of the traffic counting program the following peak hours were identified at this intersection:

- Weekday morning 8:00 to 9:00 A.M.;
- Weekday afternoon 5:00 to 6:00 P.M.;
- Sunday Service Arrivals 9:00 to 10:00 A.M.; and,



Sunday Class Departures – 12:00 Noon to 1:00 P.M.

Due to the time at which these existing counts were conducted, the country clubs and the summer activities at Purchase Community House may not have been fully accounted for in the counts. New York State Department of Transportation (NYSDOT) had a continuous count on Anderson Hill Road between Westchester Avenue and NYS Route 120 (Purchase Street) Station. For the year 2011 a review of the monthly average daily traffic (ADT) showed that the month of October had the highest ADT. Comparing this to the ADT of the month of April indicated that a growth factor of 1.025 should be applied. With the application of the seasonal variation to our existing turning movement counts, the country clubs and summer activities at Purchase Community House are accounted for in the base conditions. The backup data and seasonal variation calculations can be found in the Appendix of this report.

Purchase Street, north of Anderson Hill Road, had a two-way volume of 701, 691, 300 and 460 vehicles during the weekday morning, weekday afternoon, Sunday service arrivals and Sunday class departures peak hours, respectively. Purchase Street, south of Anderson Hill Road, had a recorded two-way volume of 901, 799, 357 and 502 vehicles during the same weekday morning, weekday afternoon, Sunday service arrivals and Sunday class departures peak hours, respectively. Anderson Hill Road, west of Purchase Street, had a two-way volume of 666, 788, 340 and 542 vehicles during the same four peak hours noted above. Anderson Hill Road, east of Purchase Street, had a two-way volume of 602, 680, 343 and 556 vehicles during the same four peak hours noted above.

Anderson Hill Road, west of PepsiCo Access Drive/SUNY Purchase Access Drive, had a two-way volume of 768, 956, 439 and 773 vehicles during the weekday morning, weekday afternoon, Sunday service arrivals and Sunday class departures peak hours, respectively. Anderson Hill Road, east of PepsiCo Access Drive/SUNY Purchase Access Drive, had a recorded two-way volume of 423, 561, 166 and 347 vehicles during the same

weekday morning, weekday afternoon, Sunday service arrivals and Sunday class departures peak hours, respectively. SUNY Purchase Access Drive, North of Anderson Hill Road, had a two-way volume of 466, 565, 367 and 554 vehicles during the same four peak hours noted above. PepsiCo Access Drive, south of Anderson Hill Road, had a two-way volume of 27, 20, 0 and 20 vehicles during the same four peak hours noted above.

Figures 4 through 7 graphically illustrate the peak hour volumes, by turning movements, for the weekday morning, weekday afternoon, Sunday service arrivals and Sunday class departures peak hours, respectively. Table 1 provides a more detailed summary of the recorded two-way volumes on area roadways near the subject property.

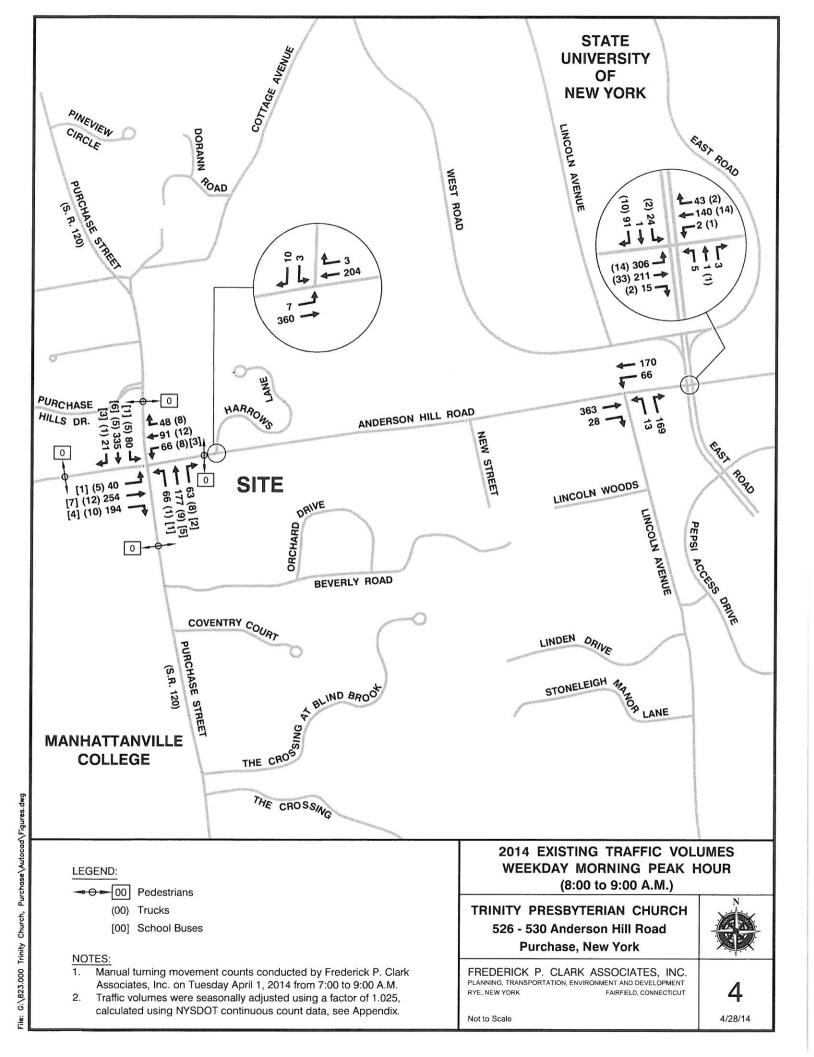
In addition to the manual traffic counts, an Automatic Traffic Recorder (ATR) was also installed by Frederick P. Clark Associates, Inc. at the following location:

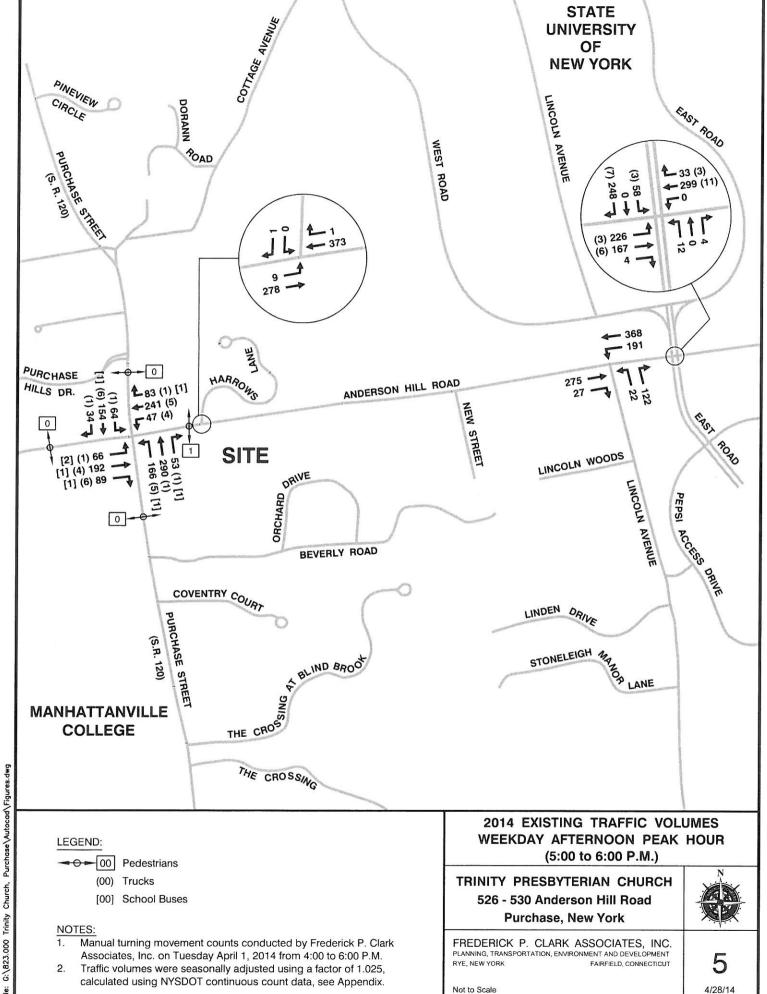
Anderson Hill Road, west of Harrows Lane.

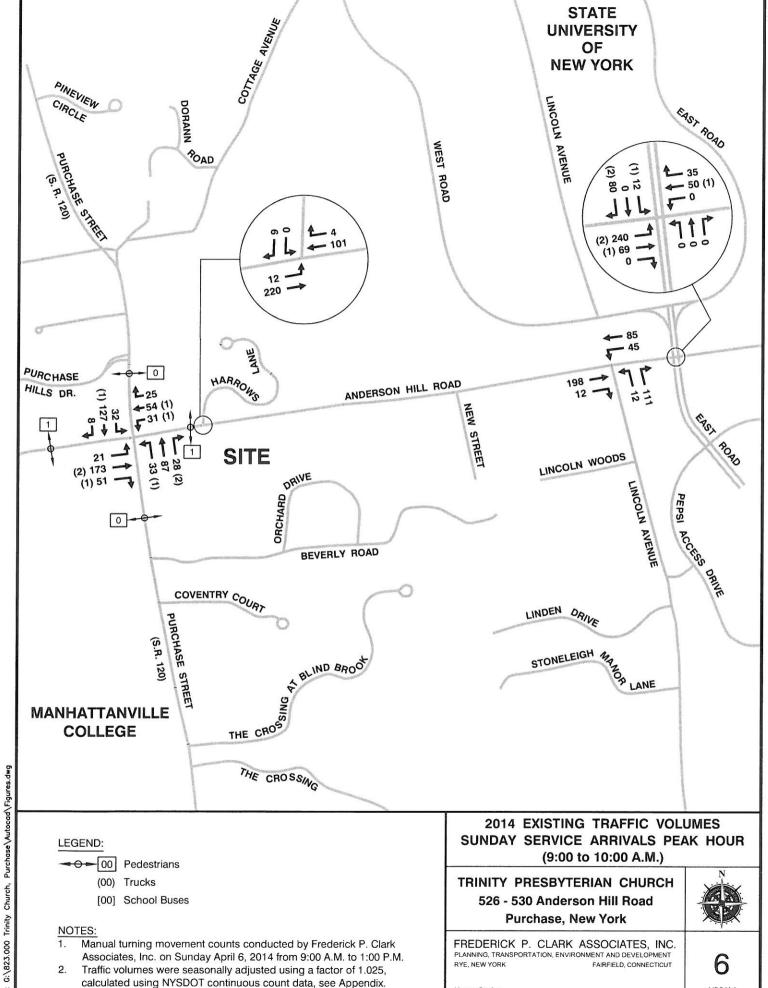
This ATR recorded hourly and directional traffic volumes from Sunday, March 30 to Monday, April 7, 2014. It also recorded the 85th percentile speed on this roadway.

The results of the traffic counting program indicated that the recorded two-way volume for a typical weekday was found to be 8,347 vehicles. The eastbound volume was found to be 4,589 vehicles and the westbound volume was found to be 3,758 vehicles. The result of the ATR indicated the weekday morning peak hour occurred between 8:00 and 9:00 A.M., with a two-way volume of 605 vehicles. The weekday afternoon peak hour occurred between 5:00 and 6:00 P.M., with a two-way volume of 636 vehicles.

The results of the traffic counting program indicated that the recorded two-way volume for a typical Sunday was found to be 5,804 vehicles. The eastbound volume was found to be 2,868 vehicles and the westbound volume was found to be 2,936 vehicles. The

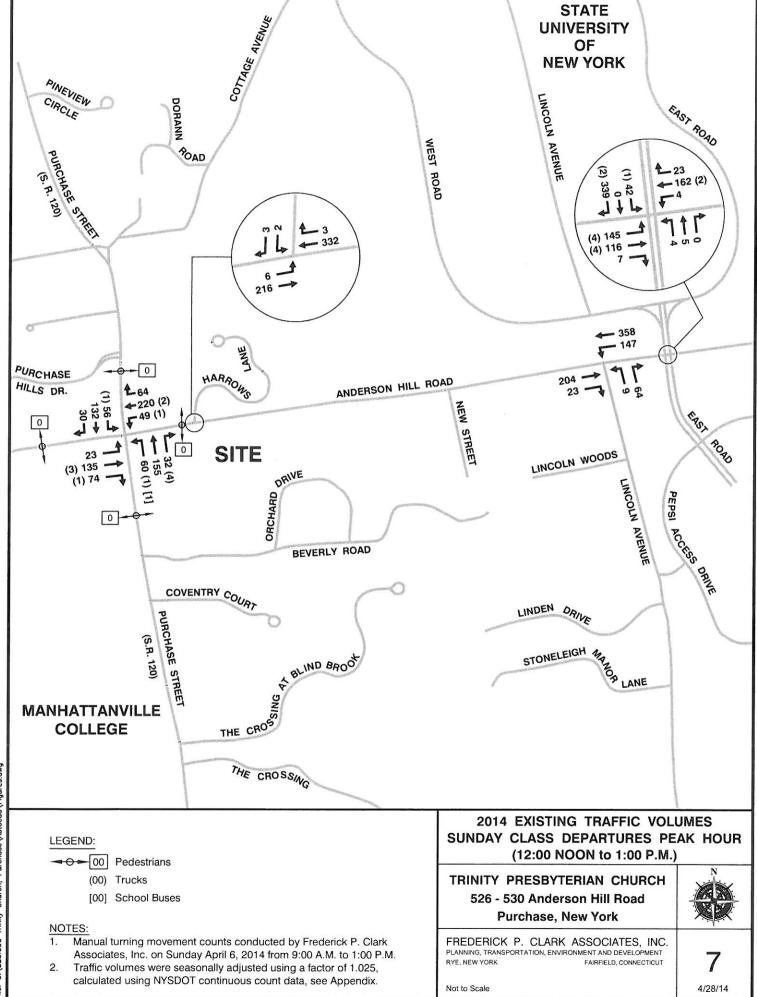






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Table 1 2014 TWO-WAY TRAFFIC VOLUMES – PEAK HOURS

Trinity Presbyterian Church 526-530 Anderson Hill Road Purchase, New York

	VEHICLES			
LOCATION	Weekday Morning	Weekday Afternoon	Sunday Service Arrivals	Sunday Class Departures
Purchase Street (NYS Route 120), North of Anderson Hill Road	701	691	300	460
Purchase Street (NYS Route 120), South of Anderson Hill Road	901	799	357	502
Anderson Hill Road, West of Purchase Street (NYS Route 120)	666	788	340	542
Anderson Hill Road, East of Purchase Street (NYS Route 120)	602	680	343	556
Anderson Hill Road, West of Harrows Lane	581	661	342	557
Anderson Hill Road, East of Harrows Lane	570	652	325	553
Harrows Lane, North of Anderson Hill Road	23	11	25	14
Anderson Hill Road, West of Lincoln Avenue	574	692	307	594
Anderson Hill Road, East of Lincoln Avenue	768	956	439	773
Lincoln Avenue, South of Anderson Hill Road	276	362	180	243
Anderson Hill Road, West of Pepsico Access Drive/SUNY Purchase Access Drive	768	956	439	773
Anderson Hill Road, East of Pepsico Access Drive/SUNY Purchase Access Drive	423	561	166	347
SUNY Purchase Access Drive, North of Anderson Hill Road	466	565	367	554
Pepsico Access Drive, South of Anderson Hill Road	27	20	0	20

Source: Manual turning movement counts conducted by Frederick P. Clark Associates, Inc. on, Tuesday, April 1, 2014 and Sunday, April 6, 2014.

Note: Manual turning movement counts were seasonally adjusted using a 1.025 growth factor.

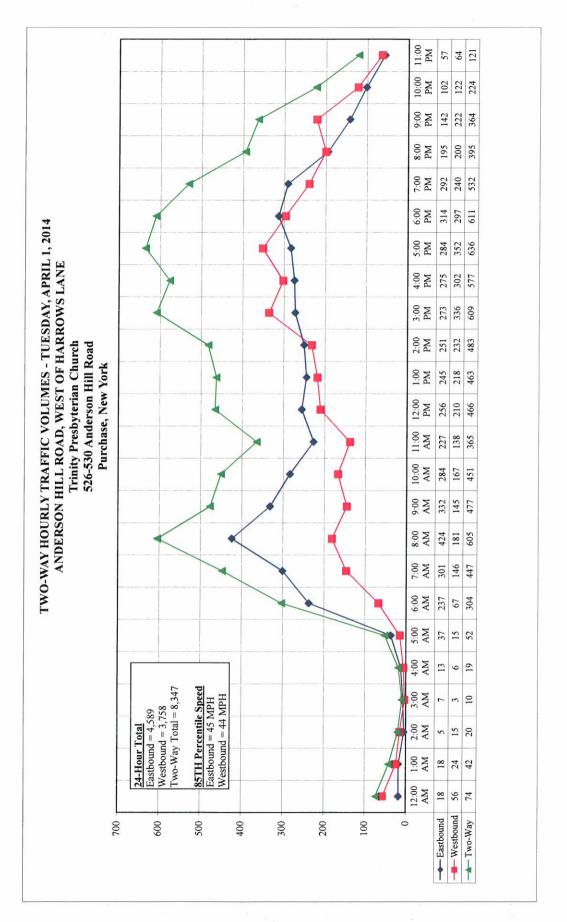
result of the ATR indicated the Saturday peak hour occurred between 2:00 and 3:00 P.M., with a two-way volume of 106 vehicles.

The recorded 85th percentile speed was 45 miles per hour in the eastbound direction and 44 miles per hour in the westbound direction. Figures 8 and 9 graphically illustrate the results of the installed ATR by Frederick P. Clark Associates, Inc. The field sheets for the traffic counts and ATR are conducted by Frederick P. Clark Associates, Inc. are included in the Appendix of this report.

Accident Experience

The latest available accident data was requested from the New York State Department of Transportation for the intersection of Purchase Street at Anderson Hill Road. The accident data has <u>not</u> yet been received. When it is received it will be summarized in Table 2.

The latest available accident data was requested from the Harrison Police Department for a period beginning January 1, 2011 through December 31, 2013 for Anderson Hill Road from Purchase Street to PepsiCo Access Drive/SUNY Purchase Access Drive. For the intersection of Anderson Hill Road at Purchase Street (NYS Route 120), there were 15 accidents recorded during this three-year period. Data indicates that 80 percent of the accidents were limited to property damage only and 20 percent included injuries. The collision types were 33 percent involving a rear-end collision, 20 percent involved a left turn and a right angle collision, 13 percent involved a right turn collision and 7 percent involved a sideswipes in the same direction and a collision with a fixed object. The contributing factors were 40 percent failed to yield right-of-way, 27 percent for following too closely, 13 percent for traffic control disregard and 7 percent for pavement slippery, obstruction/debris and passing/lane use improper. The reports show that 80 percent of the accidents occurred during daylight hours and 67 percent occurred on dry road conditions.

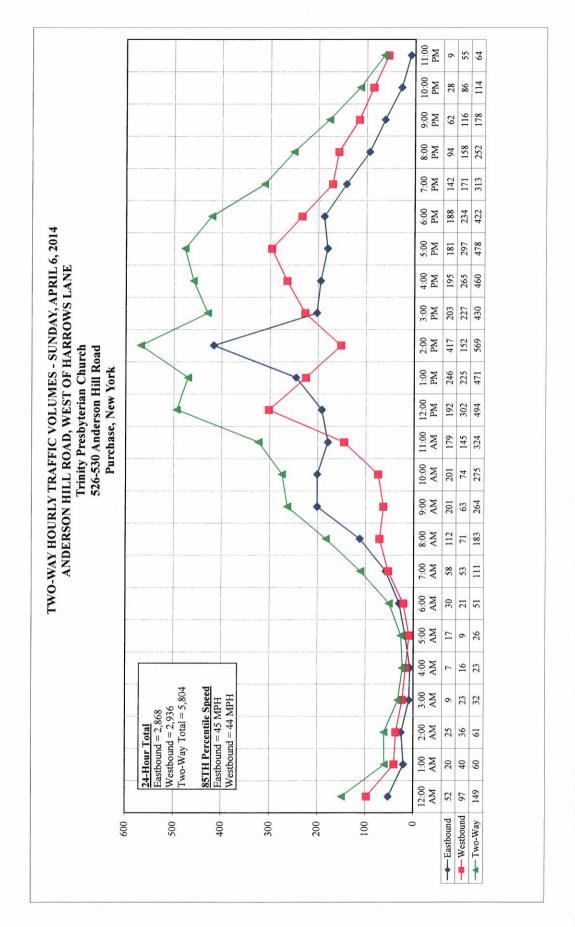


Source: Automatic Traffic Recorders conducted by Frederick P. Clark Associates, Inc. from Sunday, March 30 to Monday, April 7, 2014.

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Frederick P. Clark Associates, Inc.

April 2014



Source: Automatic Traffic Recorders conducted by Frederick P. Clark Associates, Inc. from Sunday, March 30 to Monday, April 7, 2014.

April 2014

Frederick P. Clark Associates, Inc.

Table 2
ACCIDENT EXPERIENCE SUMMARY – NYS ROUTE 120 (PURCHASE STREET)
Trinity Presbyterian Church
526-530 Anderson Hill Road
Purchase, New York

	NYS ROUTE 120 (PURCHASE STREET)		
ACCIDENT	At Anderson Hill Road		
CHARACTERISTICS	Total %		
Year			
= 2011	2	20	
2012	6	60	
2013	2	20	
■ Total	10	100	
Accident Severity			
Property Damage	8	80	
Injury	2	20	
Collision Type			
Right Angle	5	50	
Left Turn	2	20	
Right Turn	1	10	
■ Other	2	20	
Contributing Factor			
Failure to Yield ROW	5	50	
Driver Inattention	1	10	
Traffic Control Disregard	2	20	
Unknown	2	20	
Light Condition			
Daylight	7	70	
Dark-Lighted	1	10	
Unknown	2	20	
Surface Condition			
Dry	5	50	
■ Wet	3	30	
Unknown	2	20	
Weather Conditions			
Clear	3	30	
Cloudy	2	20	
Rain	2	20	
Fog/Smog/Smoke	1	10	
Unknown	2	20	

Table 2 Cont'd

Source: New York State Department of Transportation.

Notes: January 1, 2011 to December 31, 2013 is the latest accident data available.

Frederick P. Clark Associates, Inc. G:\823.000 Trinity Church, Purchase\Word\ahr14-002.stc.doc 9/15/14

Program: sass1702

NYSDOT Safety Information Management System Accident Verbal Description Report

Program: sass1702

NYSDOT Safety Information Management System

Date: 08/21/14 16:58

Intersection & Non-Intersection Accidents Accident Verbal Description Report

Complete Accident Data From NYSDMV Is Only Available thru 31-DEC-2013

01-JAN-2011 - 31-DEC-2013 Dates: Highway Location Ref Mrkr Range: 120 87012035 - 120 87012037 *** Ref Mrkr: 120 8701 2036 Route: 120

operty Damage: NO Continued) NON-INTERSECTION ACCIDENTS *** Publ Pre-Accd Action: GOING STRAIGHT AHEAD Apparent Factors: ANIMAL'S ACTION Direction of Travel: NORTH

School Bus Involved: NO

NOT APPLICABLE INTERSECTION ACCIDENTS - ANDERSON HILL RD 8701 2036 *** Ref Mrkr: 120

Case: 2011-33863853 Accident Class.

Type of Accident: COLLISION WITH MOJUR VEHICLS

Type of Accident: COLLISION WITH MOJUR VEHICLS

Manner of Collision: LEFT TURN (AGAINST OTHER CAR)

Road Char: STRAIGHT AND LEVEL

Light Condition: DAR

Action of Ped/Bicycle: NOT APPLICABLE 3 Extent of Injuries: ACC
Police Agency: HARRISON TOWN PD
Traffic Control: TRAFFIC SIGNAL
Weather: CLOUDY Persons Injured: Accident Class: PROPERTY DAMAGE AND INJURY 0 Persons Killed: APR-09-2011 SAT 12:39 AM

Light Condition: DARK-ROAD LIGHTED State of Registration: Sex: MALE Registered Weight: 2687

Veh: 1

Veh:

School Bus Involved: NO NO NO NO Citation Issued: Citation Issued: State of Registration: School Bus Involved: Sex: FEMALE Registered Weight: 3268 Drivers Age: 19 Public Property Damage: NO Public Property Damage: UNKNOWN Drivers Age: Pre-Accd Action: MAKING LEFT TURN Apparent Factors: FALLURE TO YIELD RIGHT OF WAY Pre-Accd Action: GOING STRAIGHT AHEAD Num of Occupants: 3 Direction of Travel: WEST Num of Occupants: 2 Direction of Travel: EAST CAR/VAN/PICKUP 2

Case: 2011-33970234 Num of Veh: Extent of Injuries: Police Agency: NOT ENTERED Persons Injured: Type of Accident: COLLISION WITH MOTOR VEHICLE 0 Accident Class: PROPERTY DAMAGE Persons Killed: THU 03:30 PM JUN-09-2011

UNKNOWN

Apparent Factors: UNKNOWN

Light Condition: UNKNOWN Action of Ped/Bicycle: NOT APPLICABLE Traffic Control: UNKNOWN Weather: UNKNOWN Road Char: UNKNOWN of Ped/Bicycle: NOT APPLICABLE Manner of Collision: RIGHT ANGLE Road Surface Collision: UNKNOWN

State of Registration: Sex: MALE Registered Weight: 4478 NO Public Property Damage: UNKNOMN Drivers Age: Direction of Travel: UNKNOWN Apparent Factors: UNKNOWN Pre-Accd Action: UNKNOWN Num of Occupants: 1 CAR/VAN/PICKUP Н Veh:

N S

Citation Issued: School Bus Involved: NO NO NO

School Bus Involved: State of Registration: Citation Issued: Sex: FEMALE 30 NO Public Property Damage: Registered Weight: Drivers Age: UNKNOWN Direction of Travel: UNKNOWN Apparent Factors: UNKNOWN Pre-Accd Action: UNKNOWN Num of Occupants: 1 CAR/VAN/PICKUP 7 Veh:

Program: sass1702

NYSDOT Safety Information Management System

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Page: 3

Intersection & Non-Intersection Accidents Accident Verbal Description Report

Complete Accident Data From NYSDMV Is Only Available thru 31-DEC-2013

01-JAN-2011 - 31-DEC-2013 Dates: Highway Location Ref Mrkr Range: 120 87012035 - 120 87012037 Route: 120

Case: 2011-34090880 Num of Veh: Light Condition: DAYLIGHT SUN 11:40 A...
Accident Class: PROPERTY DAMAGE AND INCOME.
TYPE of Accident: COLLISION WITH MOTOR VEHICLE
Manner of Collision: LEFT TURN (AGAINST OTHER CAR)
Road Char: STRAIGHT AND LEVEL
Action of Ped/Bicycle: NOT APPLICABLE
Action of Ped/Bicycle: NOT APPLICABLE SUN 11:40 AM Persons Killed: OCT-02-2011

State of Registration: Registered Weight: 2864

NO NO

N ON

State of Registration: School Bus Involved: Citation Issued: School Bus Involved: Citation Issued: Sex: MALE Sex: MALE Drivers Age: 21 Public Property Damage: NO Public Property Damage: NO Registered Weight: Drivers Age: UNKNOMN Pre-Accd Action: GOING STRAIGHT AHEAD Num of Occupants: 1 Direction of Travel: EAST Direction of Travel: WEST Apparent Factors: UNKNOWN Num of Occupants: 2 CAR/VAN/PICKUP Н N Veh: Veh:

Case: 2012-34282780 Num of Veh: Extent of Injuries: Persons Injured: 0 SUN 10:56 AM Persons Killed: Accident Class: PROPERTY DAMAGE APR-22-2012

UNKNOWN

Apparent Factors: FAILURE TO YIELD RIGHT OF WAY

Pre-Accd Action: MAKING LEFT TURN

Light Condition: DAYLIGHT Road Char: STRAIGHT AND LEVEL Light Condition: DAY Action of Ped/Bicycle: NOT APPLICABLE Police Agency: HARRISON TOWN PD Traffic Control: TRAFFIC SIGNAL Weather: RAIN Type of Accident: COLLISION WITH MOTOR VEHICLE Manner of Collision: RIGHT ANGLE Loc. of Ped/Bicycle: NOT APPLICABLE Road Surface Collision: WET

State of Registration: Citation Issued: School Bus Involved: Sex: FEMALE Registered Weight: 2985 Public Property Damage: NO Drivers Age: Pre-Accd Action: GOING STRAIGHT AHEAD Apparent Factors: NOT APPLICABLE Direction of Travel: WEST Num of Occupants: 2 CAR/VAN/PICKUP Veh: 1

NOT APPLICABLE

NO NO

State of Registration: Citation Issued: School Bus Involved: TRAFFIC CONTROL DEVICES DISREGARDED Sex: MALE Registered Weight: 3230 48 Public Property Damage: Drivers Age: Factors: FAILURE TO YIELD RIGHT OF WAY Num of Occupants: 1 Direction of Travel: SOUTH Pre-Accd Action: GOING STRAIGHT AHEAD Apparent Factors: FAILURE TO YIELD RIC CAR/VAN/PICKUP 2 Veh:

Case: 2012-34334774 Num of Veh: Light Condition: DAYLIGHT Road Char: STRAIGHT AND LEVEL Light Condition: DAY Action of Ped/Bicycle: NOT APPLICABLE 2 Extent of Injuries: BC
Police Agency:HARRISON TOWN PD
Traffic Control: TRAFFIC SIGNAL
Weather: RAIN Persons Injured: Type of Accident: COLLISION WITH MOTOR VEHICLE Accident Class: PROPERTY DAMAGE AND INJURY Loc. of Ped/Bicycle: NOT APPLICABLE 0 Persons Killed: Road Surface Collision: WET Manner of Collision: OTHER WED JUN-13-2012

NYSDOT Safety Information Management System

Date: 08/21/14 16:58

Accident Verbal Description Report

Intersection & Non-Intersection Accidents
Complete Accident Data From NYSDMV Is Only Available thru 31-DEC-2013

NON ate of Registration: NY Citation Issued: NO School Bus Involved: NO School Bus Involved: State of Registration: Citation Issued: State of Registration: School Bus Involved: State of Registration: Citation Issued: 01-JAN-2011 - 31-DEC-2013 Sex: MALE Sex: MALE Sex: MALE (Continued) Dates: Registered Weight: UNKNOWN Registered Weight: UNKNOWN NOT APPLICABLE NOT APPLICABLE NOT APPLICABLE *** 55 NO Drivers Age: 64 Public Property Damage: NO Highway Location Ref Mrkr Range: 120 87012035 - 120 87012037 Drivers Age: Registered Weight: Public Property Damage: Drivers Age: Drivers Age: INTERSECTION ACCIDENTS - ANDERSON HILL RD Pre-Accd Action: GOING STRAIGHT AHEAD Apparent Factors: PASSING OR LANE USAGE IMPROPERLY Apparent Factors: FAILURE TO YIELD RIGHT OF WAY Pre-Accd Action: GOING STRAIGHT AHEAD Apparent Factors: NOT APPLICABLE Pre-Accd Action: MAKING RIGHT TURN Num of Occupants: 1 Direction of Travel: EAST Direction of Travel: EAST Direction of Travel: WEST Num of Occupants: 1 Num of Occupants: 1 *** Ref Mrkr: 120 8701 2036 CAR/VAN/PICKUP CAR/VAN/PICKUP CAR/VAN/PICKUP Н Route: 120 2 m Veh: Veh: Veh:

Case: 2012-34407152 Num of Veh: 2 School Bus Involved: Citation Issued: State of Registration: Citation Issued: School Bus Involved: State of Registration: Light Condition: DAYLIGHT Road Char: STRAIGHT AND LEVEL Light Condition: DAY
Action of Ped/Bicycle: NOT APPLICABLE Police Agency: HARRISON TOWN PD Traffic Control: TRAFFIC SIGNAL Weather: CLEAR Sex: FEMALE FAILURE TO YIELD RIGHT OF WAY Sex: MALE Extent of Injuries NOT APPLICABLE Registered Weight: 4608 Public Property Damage: NO NO Registered Weight: Drivers Age: Public Property Damage: Drivers Age: Persons Injured: Manner of Collision: RIGHT TURN (WITH OTHER CAR) Type of Accident: COLLISION WITH MOTOR VEHICLE Pre-Accd Action: GOING STRAIGHT AHEAD Pre-Accd Action: STARTING IN TRAFFIC Factors: DRIVER INATTENTION Loc. of Ped/Bicycle: NOT APPLICABLE 0 Apparent Factors: NOT APPLICABLE THU 12:25 PM Persons Killed: (Accident Class: PROPERTY DAMAGE Road Surface Collision: DRY Num of Occupants: 1 Direction of Travel: NORTH Direction of Travel: WEST Num of Occupants: 1 CAR/VAN/PICKUP CAR/VAN/PICKUP Apparent AUG-16-2012 Veh: 1 N Veh:

Case: 2012-34533990 Num of Veh: Weather: UNKNOWN Light Condition: UNKNOWN Police Agency: Traffic Control: UNKNOWN Extent of Injuries: Road Char: UNKNOWN Persons Injured: Type of Accident: COLLISION WITH MOTOR VEHICLE 0 Manner of Collision: RIGHT ANGLE Accident Class: PROPERTY DAMAGE Road Surface Collision: UNKNOWN Persons Killed: THU 09:15 AM SEP-20-2012

NYSDOT Safety Information Management System

Date: 08/21/14 16:58

Accident Verbal Description Report

Intersection & Non-Intersection Accidents

Complete Accident Data From NYSDMV Is Only Available thru 31-DEC-2013

01-JAN-2011 - 31-DEC-2013 (Continued) Dates: *** Highway Location Ref Mrkr Range: 120 87012035 - 120 87012037 INTERSECTION ACCIDENTS - ANDERSON HILL RD 8701 2036 *** Ref Mrkr: 120 Route: 120

NON State of Registration: School Bus Involved: Citation Issued: Action of Ped/Bicycle: NOT APPLICABLE Sex: MALE Registered Weight: 3213 Public Property Damage: NO Drivers Age: of Ped/Bicycle: NOT APPLICABLE Direction of Travel: UNKNOWN Pre-Accd Action: UNKNOWN Num of Occupants: 1 CAR/VAN/PICKUP Н Veh:

State of Registration: School Bus Involved: Citation Issued: Sex: FEMALE NOT ENTERED NOT ENTERED Urivers Age: 62 Public Property Damage: NO Registered Weight: Drivers Age: Apparent Factors: NOT ENTERED Apparent Factors: NOT ENTERED Num of Occupants: 1 Direction of Travel: UNKNOWN Pre-Accd Action: UNKNOWN CAR/VAN/PICKUP 2 Veh:

NO NO NO

Case: 2012-34452485 Num of Veh: Light Condition: DARK-ROAD LIGHTED Road Char: STRAIGHT AND LEVEL Light Condition: DAR Action of Ped/Bicycle: NOT APPLICABLE Police Agency: HARRISON TOWN PD
Traffic Control: TRAFFIC SIGNAL
Weather: CLOUDY Persons Injured: Type of Accident: COLLISION WITH MOTOR VEHICLE of Ped/Bicycle: NOT APPLICABLE 0 Accident Class: PROPERTY DAMAGE WED 09:10 PM Persons Killed: Road Surface Collision: DRY Manner of Collision: OTHER Loc. SEP-26-2012

State of Registration: Citation Issued: School Bus Involved: Sex: MALE Registered Weight: UNKNOWN 54 NO Public Property Damage: Drivers Age: Pre-Accd Action: MAKING RIGHT TURN ON RED Apparent Factors: FAILURE TO YIELD RIGHT OF WAY Direction of Travel: NORTH Num of Occupants: 1 CAR/VAN/PICKUP Н Veh:

SSG

NON

Citation Issued: School Bus Involved: State of Registration: Sex: MALE NOT APPLICABLE NOT APPLICABLE Registered Weight: Public Property Damage: Drivers Age: Pre-Accd Action: GOING STRAIGHT AHEAD Apparent Factors: NOT APPLICABLE Direction of Travel: EAST Num of Occupants: 1 CAR/VAN/PICKUP 0 Veh:

State of Registration: School Bus Involved: Citation Issued: Sex: MALE NOT APPLICABLE 2432 Registered Weight: Public Property Damage: Drivers Age: Pre-Accd Action: GOING STRAIGHT AHEAD Apparent Factors: NOT APPLICABLE Direction of Travel: WEST Num of Occupants: 1 CAR/VAN/PICKUP m Veh:

Police Agency: HARRISON TOWN PD Traffic Control: TRAFFIC SIGNAL Weather: CLOUDY Extent of Injuries: Persons Injured: Type of Accident: COLLISION WITH MOTOR VEHICLE 0 Manner of Collision: RIGHT ANGLE Accident Class: PROPERTY DAMAGE Persons Killed: THU 11:00 AM OCT-25-2012

Case: 2012-34510904 Num of Veh: 2

NO NO

NYSDOT Safety Information Management System

Accident Verbal Description Report

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Date: 08/21/14 16:58

Complete Accident Data From NYSDMV Is Only Available thru 31-DEC-2013 Intersection & Non-Intersection Accidents

State of Registration: NY Citation Issued: NO

Sex: FEMALE

Registered Weight: 3049 Drivers Age: 25

CAR/VAN/PICKUP
Num of Occupants: 1

Veh: 1

NYSDOT Safety Information Management System

Date: 08/21/14 16:58

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Accident Verbal Description Report

Intersection & Non-Intersection Accidents

Complete Accident Data From NYSDMV Is Only Available thru 31-DEC-2013

NO NO School Bus Involved: NO State of Registration: Citation Issued: School Bus Involved: 01-JAN-2011 - 31-DEC-2013 Sex: FEMALE (Continued) Dates: NOT APPLICABLE Apparent Factors: TRAFFIC CONTROL DEVICES DISREGARDED NOT APPLICABLE Registered Weight: 4120 *** Public Property Damage: NO Highway Location Ref Mrkr Range: 120 87012035 - 120 87012037 Public Property Damage: Drivers Age: INTERSECTION ACCIDENTS - ANDERSON HILL RD *** Ref Mrkr: 120 8701 2037 NON-INTERSECTION ACCIDENTS *** Pre-Accd Action: GOING STRAIGHT AHEAD Pre-Accd Action: GOING STRAIGHT AHEAD Apparent Factors: NOT APPLICABLE Direction of Travel: SOUTH Num of Occupants: 2 Direction of Travel: EAST *** Ref Mrkr: 120 8701 2036 CAR/VAN/PICKUP 2 Route: 120 Veh:

Case: 2011-33958843 Num of Veh: 2 NY YES NO NO NO State of Registration: Citation Issued: School Bus Involved: Citation Issued: School Bus Involved: State of Registration: Light Condition: DAYLIGHT Action of Ped/Bicycle: NOT APPLICABLE Sex: FEMALE Weather: CLEAR Dolice Agency:HARRISON TOWN PD Sex: MALE Road Char: STRAIGHT AND LEVEL Registered Weight: 4170 Drivers Age: 21 Rroperty Damage: NO Drivers Age: Public Property Damage: UNKNOMN UNKNOMN Registered Weight Persons Injured: Type of Accident: COLLISION WITH MOTOR VEHICLE Public Accident Class: PROPERTY DAMAGE AND INJURY Apparent Factors: FOLLOWING TOO CLOSELY Pre-Accd Action: GOING STRAIGHT AHEAD of Ped/Bicycle: NaT APPLICABLE 0 Direction of Travel: NORTH
Pre-Accd Action: MAKING RIGHT TUR Apparent Factors: NOT APPLICABLE Persons Killed: Manner of Collision: UNKNOWN Road Surface Colliston: DRY Direction of Travel: NORTH Num of Occupants: 1 Num of Occupants: 1 CAR/VAN/PICKUP CAR/VAN/PICKUP TUE 02:27 JUN-21-2011 Н 2 Veh: Veh:

Case: 2013-34834286 Num of Veh: State of Registration: Citation Issued: School Bus Involved: Traffic Control: NONE
Weather: CLEAR
Road Char: STRAIGHT ANN LEVEL
Action of Ped/Bicycle: NOT APPLICABLE Sex: FEMALE Police Agency: HARRISON TOWN PD Extent of Injuries: Registered Weight: 5487 Dublic Property Damage: NO UNKNOWN Persons Injured: TUE 09:27 AM Persons Killed: 0 Persons Inju-Accident Class: PROPERTY DAMAGE
Type of Accident: COLLISION WITH MOTOR VEHICLE Pre-Accd Action; GOING STRAIGHT AHEAD of Ped/Bicycle: NOT APPLACABLE Manner of Collision: OVERTAKING Road Surface Collision: DRY SOUTH Apparent Factors: UNKNOWN Direction of Travel Num of Occupants: 1 CAR/VAN/PICKUP JUN-25-2013 Н Veh:

NYSDOT Safety Information Management System

Date: 08/21/14 16:58

Accident Verbal Description Report

Intersection & Non-Intersection Accidents

Complete Accident Data From NYSDMV Is Only Available thru 31-DEC-2013

Dates: Highway Location Ref Mrkr Range: 120 87012035 - 120 87012037 Route: 120

(Continued) *** Ref Mrkr: 120 8701 2037 NON-INTERSECTION ACCIDENTS ***

Num of Occupants: 2 Direction of Travel: SOUTH Pre-Accd Action: CHANGING LANES Apparent Factors: UNSAFE LANE CHANGE CAR/VAN/PICKUP 2

Veh:

curscered Weight: 3404 Drivers Age: 77 Property Damage: NO Registered Weight, Public.

UNKNOWN

Sex: MALE

01-JAN-2011 - 31-DEC-2013

State of Registration: NY Citation Issued: NO School Bus Involved: NO

TOTAL NUMBER OF ACCIDENTS PRINTED: 16

ABSENCE OF REFERENCE MARKERS OR INTERSECTION WITHIN A SPECIFIED ROADWAY SECTION & TIME PERIOD INDICATES NO ACCIDENTS FOUND

*** END OF REPORT ***

There were no reported accidents for the section of Anderson Hill Road, between Purchase Street (NYS Route 120) and Harrows Lane.

For the intersection of Anderson Hill Road at Harrows Lane there was one accident recorded during this three-year period. Data indicates that the one accident was limited to property damage only. The collision type was a sideswipe in the same direction. The contributing factor was unsafe lane change. The accident occurred during dark-lighted conditions and on dry road conditions.

For the section of Anderson Hill Road, between Harrows Lane and Lincoln Avenue, there were 12 accidents recorded during this three-year period. Data indicates that 75 percent of the accidents were limited to property damage only and 25 percent included injuries. The collision types were 25 percent involving a rear-end collision and a right angle collision, 17 percent involved a sideswipe in the same direction and a collision with a moving object and 8 percent involved a left turn collision and backing. The contributing factors were 34 percent failed to yield right-of-way, 17 percent for following too closely and animal action and 8 percent for passing/lane use improper, backing unsafely, turning improperly and unknown. The reports show that 59 percent of the accidents occurred during daylight hours and 84 percent occurred on dry road conditions.

For the intersection of Anderson Hill Road at Lincoln Avenue, there were 11 accidents recorded during this three-year period. Data indicates that 73 percent of the accidents were limited to property damage only and 27 percent included injuries. The collision types were 37 percent involving a left turn, 18 percent involving a rear-end collision, sideswipe in the same direction and a right angle collision and 9 percent involved a collision with a fixed object. The contributing factors were 55 percent failed to yield right-of-way, 18 percent for following too closely and drive inattention and 9 percent

involved turning improperly. The reports show that 36 percent of the accidents occurred during daylight hours and 82 percent occurred on dry road conditions.

There were no reported accidents for the section of Anderson Hill Road, between Lincoln Avenue and PepsiCo Access Drive/SUNY Purchase Access Drive.

For the intersection of Anderson Hill Road at PepsiCo Access Drive/SUNY Purchase Access Drive, there were 5 accidents recorded during this three-year period. Data indicates that all of the accidents were limited to property damage only. The collision types were 60 percent involving a left turn and 20 percent involving a right turn and sideswipe in the same direction. The contributing factors were 60 percent failed to yield right-of-way and 20 percent for turning improperly and driver inattention. The reports show that 20 percent of the accidents occurred during daylight hours and 60 percent occurred on dry road conditions. Table 3 provides a more detailed summary of the accident data.

Public Transportation

Bee-Line bus service is provided along Anderson Hill Road and on Purchase Street to the south. Bus Route number 12 services these stops. No transit credits are taken in this Study because it is assumed that all parishioners will arrive and depart in personal vehicles. The bus schedules for Route 12 are provided in the Appendix of this report.

Capacity Analysis Procedures – Unsignalized Intersections

Capacity analysis procedures are provided in the Appendix of this report. The analyses follow a SYNCHRO computer model and information provided by the Transportation Research Board (TRB) and the Highway Capacity Manual (HCM) published in 2010.

Capacity Analysis Results

The results of the analysis for the Study Area intersections included in the designated Study Area are described below:

Table 3
ACCIDENT EXPERIENCE SUMMARY – ANDERSON HILL ROAD
Trinity Presbyterian Church
526-530 Anderson Hill Road
Purchase, New York

Avenue and PepsiCo Avenue and PepsiCo Avenue and PepsiCo Avenue and PepsiCo Drive/SUNY Purchase Access Drive/SUNY Purchase Access Drive/SUNY Purchase Access Drive/SUNY Purchase Access Drive Dri						Actual and the second course of second c		ANDER	ANDERSON HILL ROAD	ROAD					
At Purchase Street (NYS Route At Purchase Street (NYS Route At Harrows Lane and Lincoln At Lincoln Avenue At Purchase Street (NYS 120) and Harrows Lane and Lincoln At Lincoln Avenue				Between	Purchase							Between	Lincoln	At Pensi	o Access
ACCIDENT Street (NYS) 120) and Harrows At Harrows Lane Arenue At Lincoln Avenue At Lincoln Avenue At Lincoln Avenue Access Drive/SUNY HARACTERISTICS Total % % Total %		At Pure	chase	Street (N	YS Route			Between	Harrows			Avenue and	PepsiCo	Drive/	SUNY
ACCIDENT Route 120) Lane Lane Avenue At Lincoln Avenue Avenue <td></td> <td>Street (</td> <td>NYS</td> <td>120) and</td> <td>Harrows</td> <td>At Har</td> <td>rows</td> <td>Lane and</td> <td>Lincoln</td> <td></td> <td></td> <td>Access Driv</td> <td>/e/SUNY</td> <td>Purchase</td> <td>Access</td>		Street (NYS	120) and	Harrows	At Har	rows	Lane and	Lincoln			Access Driv	/e/SUNY	Purchase	Access
CHARACTERISTICS Total % Total %	ACCIDENT	Route	120)	La	ne	Lar	ie	Ave	nne	At Lincolr	Avenue	Purchase Ac	cess Drive	Dr	ive
11	CHARACTERISTICS	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%
6 40 0 0 0 3 25 6 55 0 0 2 ity 15 100 0 1 100 6 50 1 9 0 0 3 25 4 36 0 0 0 3 25 4 36 0	Year														
ity 15 33 0 0 1 100 6 50 1 9 0 0 3 ity 15 100 0 0 0 0 1 100 11 100 0	■ 2011	9	40	0	0	0	0	3	25	9	55	0	С	2	40
ity 15 100 0 0 3 25 4 36 0 0 0 11 100 12 100 11 100 0	■ 2012	5	33	0	0	_	100	9	50	_	6	0	0	ı m	09
ity mage 12 100 0 1 100 12 100 11 100 0	■ 2013	4	27	0	0	0	0	ĸ	25	4	36	0	0	. 0	3 0
ity mage 12 80 0 1 100 9 75 8 73 0 <t< td=""><td>■ Total</td><td>15</td><td>100</td><td>0</td><td>0</td><td>-</td><td>100</td><td>12</td><td>100</td><td>Π</td><td>100</td><td>0</td><td>0</td><td>· v</td><td>100</td></t<>	■ Total	15	100	0	0	-	100	12	100	Π	100	0	0	· v	100
mage 12 80 0 0 1 100 9 75 8 73 0	Accident Severity														
3 20 0 0 0 0 3 25 3 27 0	 Property Damage 	12	80	0	0	_	100	6	75	∞	73	0	0	5	100
5 33 0 0 0 0 3 25 2 18 0 0 0 3 20 0 0 0 0 0 0 0 0 4 37 0 0 0 0 0 0 0 5 13 0 0 0 0 0 0 0 1 7 0 0 0 0 0 0 0 1 7 0 0 0 0 0 0 0 1 7 0 0 0 0 0 0 0 0 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	■ Injury	3	70	0	0	0	0	n	25	æ	27	0	0	. 0) (
5 33 0 0 0 3 25 2 18 0 0 3 20 0 0 0 0 1 8 4 37 0 0 2 13 0 0 0 0 0 0 0 0 0 1 7 0 0 0 0 0 0 0 0 1 1 7 0 0 0 0 0 0 0 1 1 7 0 0 0 0 0 0 0 0 1 1 7 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Collision Type														
1 8 4 37 0 0 0 3	Rear-end	5	33	0	0	0	0	ß	25	2	18	0	0	0	0
m	■ Left Turn	3	20	0	0	0	0	-	∞	4	37	0	0	m	09
e-Same Dir. 1 7 0 0 1 100 2 17 2 18 0 0 1	Right Turn	2	13	0	0	0	0	0	0	0	0	0	0	-	20
gle 3 20 0 0 0 3 25 2 18 0 0 0 0 0 iject 1 7 0 0 0 0 0 0 0 1 9 0 0 0 0 0 0 0 0 0 0 0	Sideswipe-Same Dir.	-	_	0	0	_	100	7	17	7	18	0	0		20
yet 1 7 0	Right Angle	c	20	0	0	0	0	Ω.	25	2	18	0	0	0	0
Object 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Fixed Object	_	7	0	0	0	0	0	0	_	6	0	0	0	0
	 Moving Object 	0	0	0	0	0	0	7	17	0	0	0	0	0	0
	Backing	0	0	0	0	0	0	-	∞	0	0	0	0	0	0

Table 3 Cont'd

							ANDER	ANDERSON HILL ROAD	ROAD			The state of the s		The state of the s
	A + D	A+ Dunchood	Between	Between Purchase							Between Lincoln	Lincoln	At PepsiCo Access	o Access
	Street	At Furchase Street (NYS	Street (IN 120) and	120) and Harrows	At Harrows	Tows	Between Harrows Lane and Lincoln	Lincoln	VII. M		Avenue and PepsiCo Access Drive/SI INY	i PepsiCo	Drive/SUNY Purchase Access	SUNY
ACCIDENT	Route	Route 120)	La	Lane	Lane	ne	Avenue	nue	At Lincoln Avenue	n Avenue	Purchase Access Drive	cess Drive	Dri	Drive
CHARACTERISTICS	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%
Contributing Factor														
 Following Too Closely 	4	27	0	0	0	0	2	17	7	18	0	0	0	0
 Failure to Yield ROW 	9	40	0	0	0	0	4	34	9	55	0	0	n	09
 Pavement Slippery 	_	7	0	0	0	0	0	0	0	0	0	0	0	0
 Traffic Control Disregard 	2	13	0	0	0	0	0	0	0	0	0	0	0	0
 Obstruction/Debris 	_	7	0	0	0	0	0	0	0	0	0	0	0	0
 Passing/Lane Use Improper 	-	7	0	0	0	0	-	8	0	0	0	0	0	0
 Unsafe Lane Change 	0	0	0	0		100	0	0	0	0	0	0	0	0
 Backing Unsafe 	0	0	0	0	0	0	_	8	0	0	0	0	0	0
 Turning Improper 	0	0	0	0	0	0	_	8	-	6	0	0	-	20
 Animal Action 	0	0	0	0	0	0	2	17	0	0	0	0	0	0
■ Unknown	0	0	0	0	0	0	-	8	0	0	0	0	0	0
 Driver Inattention 	0	0	0	0	0	0	0	0	7	18	0	0	-	20
Light Condition														
 Daylight 	12	80	0	0	0	0	7	59	4	36	0	0	_	20
Dark-Lighted	3	20	0	0	_	100	4	33	5	46	0	0	3	09
■ Dusk	0	0	0	0	0	0	-	8	0	0	0	0		20
■ Dawn	0	0	0	0	0	0	0	0	-	6	0	0	0	0
■ Unknown	0	0	0	0	0	0	0	0	-	6	0	0	0	0
Surface Condition														
■ Dry	10	29	0	0	_	100	10	84	6	82	0	0	3	09
• Wet	2	13	0	0	0	0	-	8	_	6	0	0	2	40
Snow/Ice	7	13	0	0	0	0	0	0	0	0	0	0	0	0
Slush	0	0	0	0	0	0	-	8	0	0	0	0	0	0
■ Unknown	-	7	0	0	0	0	0	0	_	6	0	0	0	0

Table 3 Cont'd

		SALIM'S	The Laboratory of the Laborato		-	NAME OF TAXABLE PARTY.	_	-	Section State	-	_	-
	At PepsiCo Access	Drive/SUNY	Purchase Access	Drive	%		80	20	0	0	0	0
	At Peps	Drive	Purcha	T	Total		4	-	0	0	0	0
	Lincoln	l PepsiCo	ve/SUNY	cess Drive	%		0	0	0	0	0	0
	Between Lincoln	Avenue and PepsiCo	Access Drive/SUNY	Purchase Access Drive	Total		0	0	0	0	0	0
				Avenue	%		64	18	6	0	0	6
ROAD				At Lincoln Avenue	Total		7	2		0	0	_
ANDERSON HILL ROAD		Harrows	Lincoln	nne	%		29	25	0	0	8	0
ANDER		Between Harrows	Lane and Lincoln	Avenue	Total		8	3	0	0		0
			TOWS	je	%		100	0	0	0	0	0
			At Harrows	Lane	Total		-	0	0	0	0	0
	Between Purchase	Street (NYS Route	120) and Harrows	Lane	%		0	0	0	0	0	0
	Between	Street (N	120) and	La	Total		0	0	0	0	0	0
		At Purchase	Street (NYS	: 120)	%		29	20	7	7	0	7
		At Pun	Street	Route 120)	Total		6	3	_	_	0	-
				ACCIDENT	CHARACTERISTICS	Weather Conditions	■ Clear	■ Cloudy	Rain	■ Snow	 Sleet/Hail/Freezing Rain 	Unknown

Source: Harrison Police Department.

Notes: January 1, 2011 to December 31, 2013 is the latest accident data available.

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- 1. Purchase Street (NYS Route 120) at Anderson Hill Road Results of the analysis of this signalized intersection indicate that it currently operates at an overall Level of Service "C," "C," "B" and "B" during the weekday morning, weekday afternoon, Sunday service arrivals and Sunday class departures peak hours, respectively.
- 2. Anderson Hill Road at Harrows Lane Results of the analysis of this two-way STOP controlled intersection indicate that it currently operates at a Level of Service "B," "B," "A" and "B" or better during the weekday morning, weekday afternoon, Sunday service arrivals and Sunday class departures peak hours, respectively.
- 3. Anderson Hill Road at Lincoln Avenue Results of the analysis of this signalized intersection indicate that it currently operates at an overall Level of Service "B," "B," "B" and "A" during the weekday morning, weekday afternoon, Sunday service arrivals and Sunday class departures peak hours, respectively.
- 4. Anderson Hill Road at PepsiCo Access Drive/SUNY Purchase Access Drive Results of the analysis of this signalized intersection indicate that it currently operates at an overall Level of Service "B," "A," "A" and "A" during the weekday morning, weekday afternoon, Sunday service arrivals and Sunday class departures peak hours, respectively.

Table 4 provides a more detailed summary of the results of the analysis. The capacity analysis worksheets are included in the Appendix of this report.

Table 4 2014 EXISTING CONDITIONS – MEASURE OF EFFECTIVENESS (MOE) – PEAK HOURS Trinity Presbyterian Church 526-530 Anderson Hill Road Purchase, New York

			T	-	-			-				-				-			T-10-	-						
	Sunday Class	Departures	A/C	Ratio	0.54	;	0.73	I	0.12	0.34	ł	0.10	0.28	1	ŀ	0.01	0.01	0.01	0.23	I	0.20	0.27	ł	0.52	ł	1
	Sunda	Depa	/SOT	Delay	B/19.6	B/19.6	C/24.5	C/24.5	A/9.5	B/18.6	B/16.4	A/9.0	B/16.0	B/14.2	B/19.3	A/0.1	B/11.5	B/11.5	B/11.0	B/11.0	A/2.8	A/2.7	A/2.7	D/48.7	D/48.7	A/9.2
FIONS	Service	Arrivals	N/C	Ratio	0.65	Ì	0.31	1	90.0	0.20	:	0.05	0.20	1	;	0.01	0.00	0.01	0.21	1	0.07	0.07	ŀ	0.65	ŀ	1
2014 EXISTING CONDITIONS	Sunday Service	Arri	/SOT	Delay	C/24.1	C/24.1	B/14.6	B/14.6	A/7.7	B/17.0	B/15.0	6.9/A	B/12.0	B/11.0	B/17.3	A/0.1	A/0.0	A/8.9	B/10.4	B/10.4	A/3.5	A/3.3	A/3.4	D/48.9	D/48.9	B/18.7
XISTINC	kday	Afternoon	N/C	Ratio	0.84	ł	0.74	ŀ	0.33	0.52	;	0.18	0.37	ì	ŀ	0.01	0.00	0.00	0.28	ł	0.30	0.27	i	89.0	ŀ	;
2014 E	Weekday	After	/SOT	Delay	D/35.8	D/35.8	C/24.8	C/24.8	B/13.1	C/21.0	B/18.4	B/12.2	B/19.3	B/17.5	C/23.9	A/0.1	A/0.0	B/10.6	B/11.9	B/11.9	A/7.7	9.9/A	A/7.0	D/53.2	D/53.2	B/15.1
	Weekday	ning	N/C	Ratio	0.87	1	0.50	1	0.25	0.50	:	0.20	0.65	ļ	ŀ	0.01	0.02	0.02	0.34	i	0.11	0.13	1	0.70	ŀ	ŀ
	Wee	Morning	ros/	Delay	D/37.1	D/37.1	B/19.2	B/19.2	C/20.6	C/29.6	C/27.7	B/18.4	C/31.2	C/28.9	C/30.0	A/0.1	B/10.4	B/10.4	B/11.5	B/11.5	A/5.5	A/4.9	A/5.1	D/48.3	D/48.3	B/17.9
			PHYSICAL	CINITS	EB LTR	APP.	WB LTR		NB L	TR	APP.	SB L	TR	APP.	Overall		SB L	R	EB TR	APP.	WB L	Τ	APP.	NB LR	APP.	Overall
			CONTROL	TYPE	Traffic Signal											TWSC			Traffic Signal							
				INTERSECTION	Purchase Street (NYS	Route 120) at	Anderson Hill Road									Anderson Hill Road at	Harrows Lane		Anderson Hill Road at	Lincoln Avenue						

Table 4 Cont'd.

					2014 E	XISTINC	2014 EXISTING CONDITIONS	TIONS		
			Weel	Weekday		Weekday	Sunday	Sunday Service	Sunday Class	Class
			Mon	ning	- 20	Afternoon	Arri	Arrivals	Departures	tures
	CONTROL	PHYSICAL	LOS/	V/C	/SOT	A/C	/SOT	A/C	ros/	N/C
INTERSECTION	TYPE	UNITS	Delay	Ratio	Delay	Ratio	Delay	Ratio	Delay	Ratio
Anderson Hill Road at	Traffic Signal	EB L	B/13.9	0.56	A/1.6	0.30	A/9.1	0.48	A/8.4	0.34
Pepsico Access Drive/		Т	A/9.4	0.14	A/0.5	90.0	A/5.5	0.05	A/7.7	0.09
SUNY Purchase		R	A/0.1	0.02	A/0.0	0.00	A/0.0	0.00	A/0.0	0.01
Access Drive		APP.	B/11.7	ŀ	A/1.2	1	A/8.3	ł	A/7.9	1
		WB L	B/11.0	0.01	A/0.0	0.00	A/0.0	0.00	B/11.8	0.01
		TR	B/16.6	0.18	A/8.6	0.16	B/13.1	0.10	B/19.8	0.19
		APP.	B/16.5	ŀ	9.8/A	;	B/13.1	ì	B/19.6	ŀ
		NB L	C/20.2	0.01	D/40.8	0.12	A/0.0	00.00	B/18.5	0.01
		Н	B/20.0	0.00	A/0.0	0.00	A/0.0	00.00	B/18.2	0.01
		R	A/0.0	0.00	A/0.0	0.01	A/0.0	0.00	A/0.0	0.00
		APP.	B/13.4	ł	C/30.6	1	A/0.0	ł	B/18.3	ŀ
		SB L	C/21.0	90.0	D/52.1	0.47	C/20.7	0.03	B/19.5	0.10
		TR	A/8.2	0.10	A/1.1	0.25	A/0.1	0.05	A/0.5	0.21
		R	A/0.3	60.0	A/1.2	0.25	A/0.1	0.05	A/0.5	0.21
		APP.	9.7/A	;	B/10.8	1	A/2.7	1	A/2.6	1
		Overall	B/12.2	ł	A/6.7	1	A/8.1	1	A/8.2	;

Notes:

- Synchro 8.0 is used for capacity analysis.
- Level of Service determining parameter is called the service measure.
- For Signalized Intersections: Level of Service/Average Total delay per vehicle (seconds/vehicle).
 - TWSC = All-Way STOP Control.
- For TWSC Intersections: Level of Service/Average Control delay per vehicle (seconds/vehicle).
- ITE publication for Traffic Access and Impact Studies for site development "A Recommended Practice" indicated that overall Level of Service ratings of A to D are normally considered acceptable for signalized intersections (Level C or better are considered desirable). Levels of Service E and F are normally undesirable.

Table 4 Cont'd.

- V/C ratio indicates the amount of congestion for each Lane Group or Movement. Any V/C ratio greater than or equal to one indicates that the Lane Group or Movement is operating at above capacity.
 - Physical Units consist of the following:
- 1. Lane Group, Approach and Intersection Overall for Traffic Signal Controlled Intersections.

 2. Movement for TWSC Intersections.

WB = WestboundAPP. = Approach SB = Southbound R = Right Turn EB = Eastbound T = ThroughNB = Northbound L = Left Turn

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FUTURE TRAFFIC IMPACTS

This section of the report provides a description of the future no-build traffic volumes for a 2016 condition, for site-traffic generation, site traffic assignment, traffic related to other development and future build traffic volumes. It also includes a description of the results of the capacity analyses for a no-build and build condition, which provides a direct relationship to the potential impact from this proposed Church.

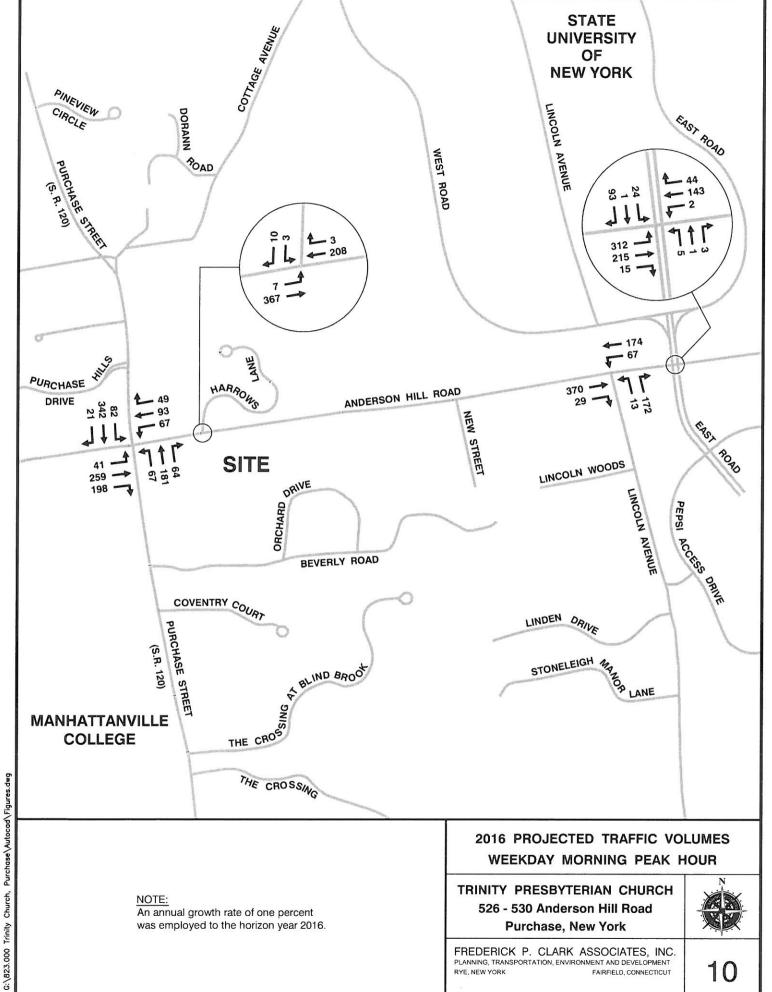
No-Build Traffic Volumes

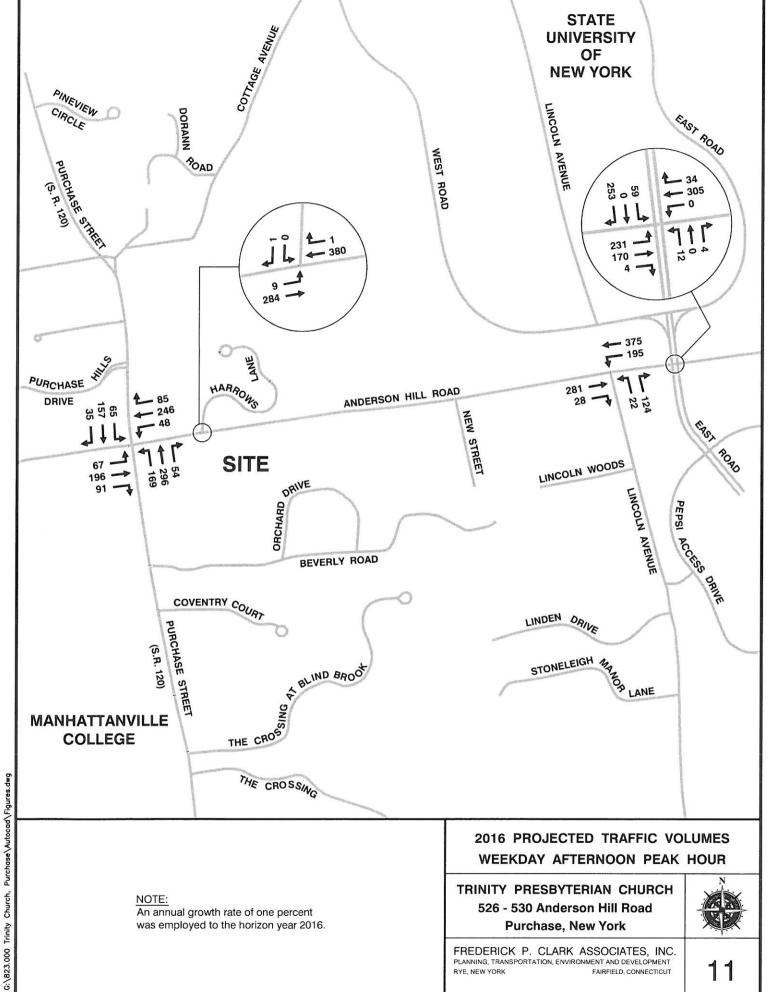
The 2014 traffic volumes were expanded to reflect a 2016 traffic condition by applying a one percent per year growth rate. Figures 10 through 13 graphically illustrate the 2016 projected traffic volumes for the weekday morning, weekday afternoon, Sunday service arrivals and Sunday class departures peak hours, respectively.

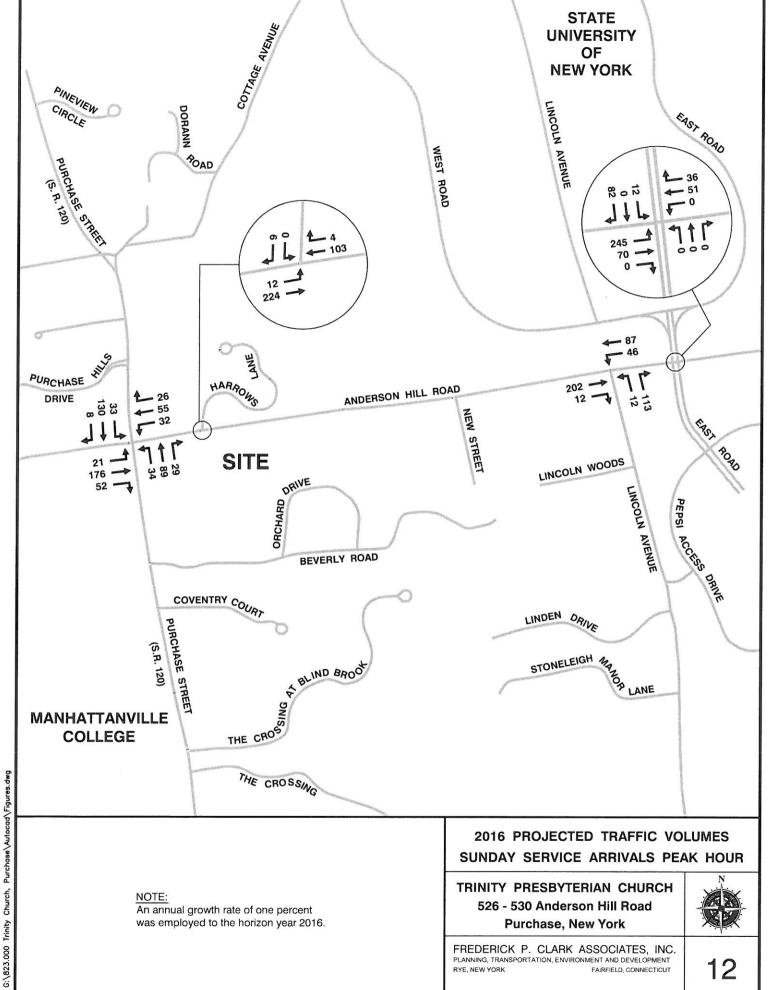
After discussions with the Village/Town of Harrison Planning Department and knowledge of the area, it was determined that the following other developments should be included:

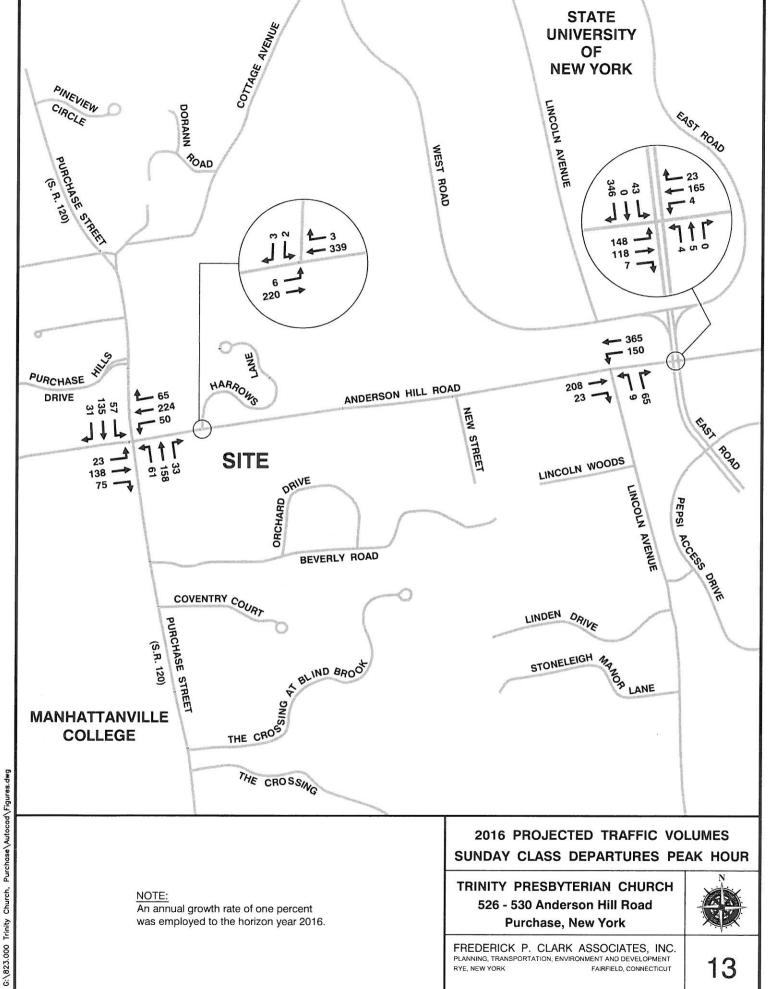
- PepsiCo Project Renew Master Plan; and,
- The Enclave (Rye Brook).

The traffic to be generated by the reoccupied PepsiCo was obtained from the Traffic Study prepared by John Collins Engineers, P.C. dated September 23, 2009. Even though the Church is expected to be completed before the full build-out of the master plan, the site traffic volumes for 2,400 employees were utilized, to be conservative. Site traffic for a Sunday condition was not included in this Study; so, using the 2,400 employees, the Sunday site traffic was developed using ITE "Trip Generation" rates.









There is no Traffic Study completed for the Enclaves located on Anderson Hill Road in Rye Brook. Site traffic was developed using ITE "Trip Generation" rates. Other developments traffic generation is illustrated in Table 5. Figures 14 through 17 graphically illustrate the other developments traffic volumes for the weekday morning, weekday afternoon, Sunday service arrivals and Sunday class departures peak hours, respectively.

Other developments include the proposal to temporarily hold practices at Manhattanville College for the new Major League Soccer (MLS) Team until it is completed. It is the understanding that these practices will be closed to the public with possibly at most two practices per year open to the public. Since it will be a temporary situation, with minimal traffic, the Traffic Study does not include any traffic.

Lastly, it was noted that SUNY Purchase may include senior housing on the Campus. However, since there is no application submitted to the Village/Town, it is assumed that any traffic from this application is accounted for in the annual growth rate.

The 2016 no-build traffic volumes were then determined by adding the other development traffic volumes to the 2016 projected traffic volumes. Figures 18 through 21 graphically illustrate the 2016 No-Build traffic volumes for the weekday morning, weekday afternoon, Sunday service arrivals and Sunday class departures peak hours, respectively.

Site Traffic Generation and Parking Needs

The proposal is to construct a 200-seat Church, office space and meeting space for current Church activities. A development program for activities was provided by the Applicant and consists of the following:

High School Youth Group, Meets weekly on Tuesdays from 7:00 P.M. to 8:30 P.M.
 with 7-12 people attending;

Table 5 OTHER DEVELOPMENTS TRAFFIC GENERATION – PEAK HOUR

Trinity Presbyterian Church 526-530 Anderson Hill Road Purchase, New York

THE E	NCLAVES, A	NDERSON HIL	L ROAD, VII	LLAGE OF F	RYE BRO	OK
			7	VEHICLE T	RIP ENDS	
					Sunday	Sunday
		TRAFFIC	Weekday	Weekday	Service	Class
LAND USE	SIZE	DIRECTION	Morning	Afternoon	Arrivals	Departures
Residential	30	Enter	2	11	7	7
Condominium/	Dwelling	Exit	<u>11</u>	<u>5</u>	7	<u>7</u>
Townhouse	Units	Total	13	16	14	14

Source: "Trip Generation," 9th Edition, published by the Institute of Transportation Engineers (ITE), 2012, using Residential Condominium/Townhouse, Code #230 Average Rates.

	PEPSIO	CO – PROJECT	RENEW MAS	STER PLAN		
				VEHICLE TI	RIP ENDS	
					Sunday	Sunday
		TRAFFIC	Weekday	Weekday	Service	Class
LAND USE	SIZE	DIRECTION	Morning	Afternoon	Arrivals	Departures
Corporate	2,400	Enter	859	91	45	45
Headquarters	Employees	Exit	<u>72</u>	<u>576</u>	<u>27</u>	<u>27</u>
		Total	931	667	72	72

Source:

- 1) Weekday morning and afternoon vehicle trip ends from Traffic Study prepared by John Collins Engineers, P.C. September 23, 2009.
- 2) "Trip Generation," 9th Edition, published by the Institute of Transportation Engineers (ITE), 2012, using Corporate Headquarters Building, Code #714 Average Rates for both the Sunday service arrival and departure.

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- Pepsico Project Renew Master Plan, Traffic Study prepared by John Collins Engineers, P.C. September 23, 2009. Even though our project is designed to be completed in 2016, the Full Master Plan - 2,400 employees were added.
- The Enclave, 30 Attached Residential Units, see Table 5.

OTHER DEVELOPMENTS TRAFFIC VOLUMES WEEKDAY MORNING PEAK HOUR

TRINITY PRESBYTERIAN CHURCH 526 - 530 Anderson Hill Road Purchase, New York

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Not to Scale

- Pepsico Project Renew Master Plan, Traffic Study prepared by John Collins Engineers, P.C. September 23, 2009. Even though our project is designed to be completed in 2016, the Full Master Plan - 2,400 employees were added.
- The Enclave, 30 Attached Residential Units, see Table 5.

OTHER DEVELOPMENTS TRAFFIC VOLUMES WEEKDAY AFTERNOON PEAK HOUR

TRINITY PRESBYTERIAN CHURCH 526 - 530 Anderson Hill Road Purchase, New York



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- Pepsico Project Renew Master Plan, Traffic Study prepared by John Collins Engineers, P.C. September 23, 2009. Even though our project is designed to be completed in 2016, the Full Master Plan - 2,400 employees were added, see table 5.
- The Enclave, 30 Attached Residential Units, see Table 5.

OTHER DEVELOPMENTS TRAFFIC VOLUMES SUNDAY SERVICE ARRIVALS PEAK HOUR

TRINITY PRESBYTERIAN CHURCH 526 - 530 Anderson Hill Road Purchase, New York



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- Pepsico Project Renew Master Plan, Traffic Study prepared by John Collins Engineers, P.C. September 23, 2009. Even though our project is designed to be completed in 2016, the Full Master Plan - 2,400 employees were added, see table 5.
- The Enclave, 30 Attached Residential Units, see Table 5.

OTHER DEVELOPMENTS TRAFFIC VOLUMES SUNDAY CLASS DEPARTURES PEAK HOUR

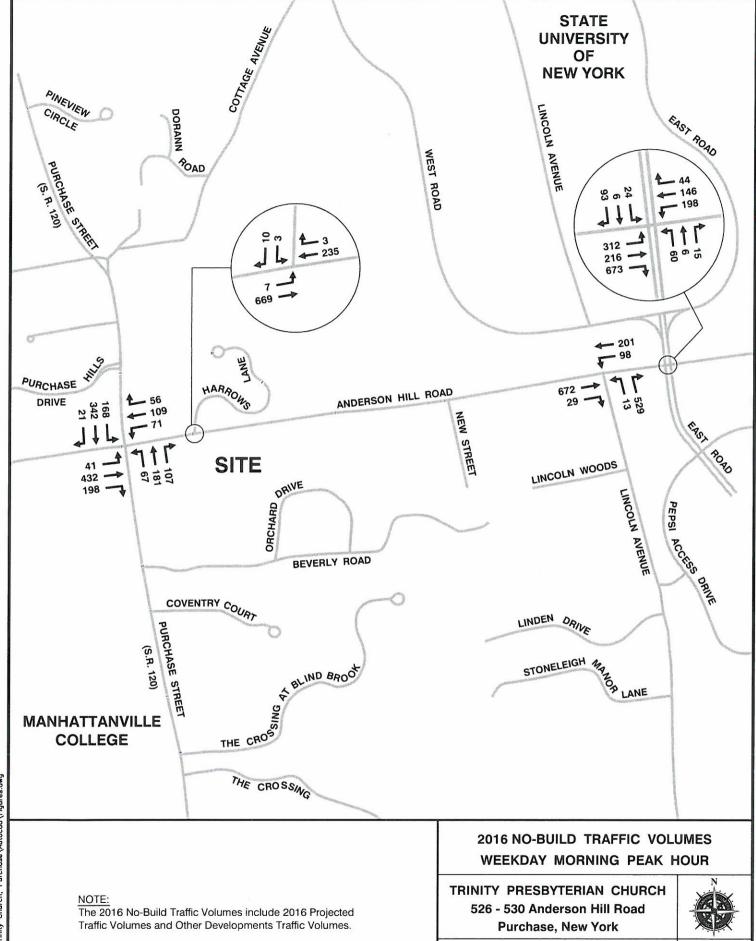
TRINITY PRESBYTERIAN CHURCH 526 - 530 Anderson Hill Road Purchase, New York



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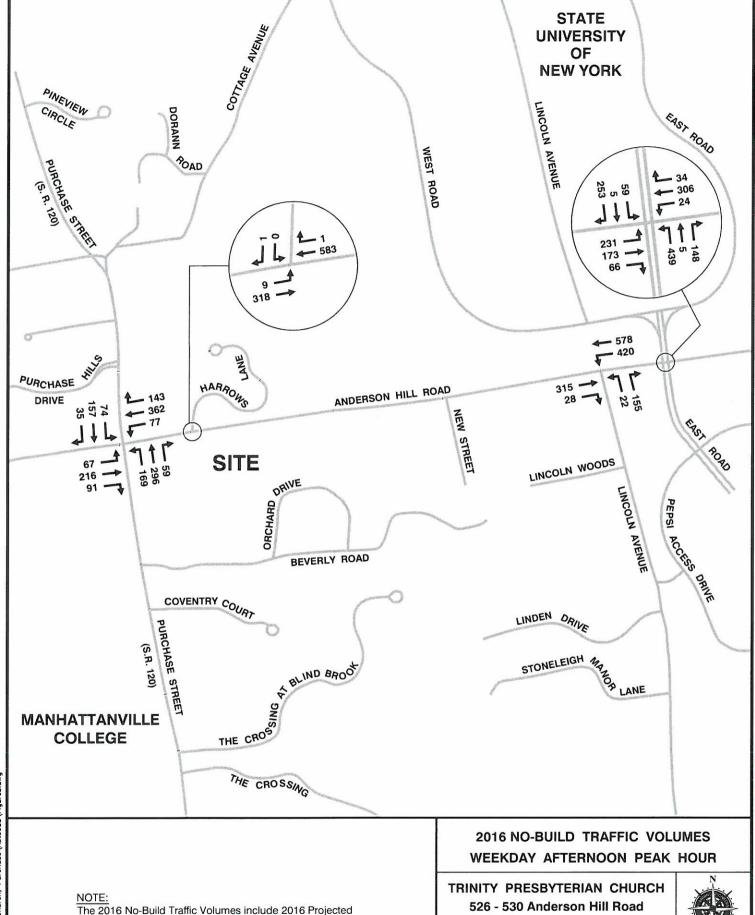
FAIRFIELD, CONNECTICUT

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RYE, NEW YORK

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Traffic Volumes and Other Developments Traffic Volumes.

Purchase, New York



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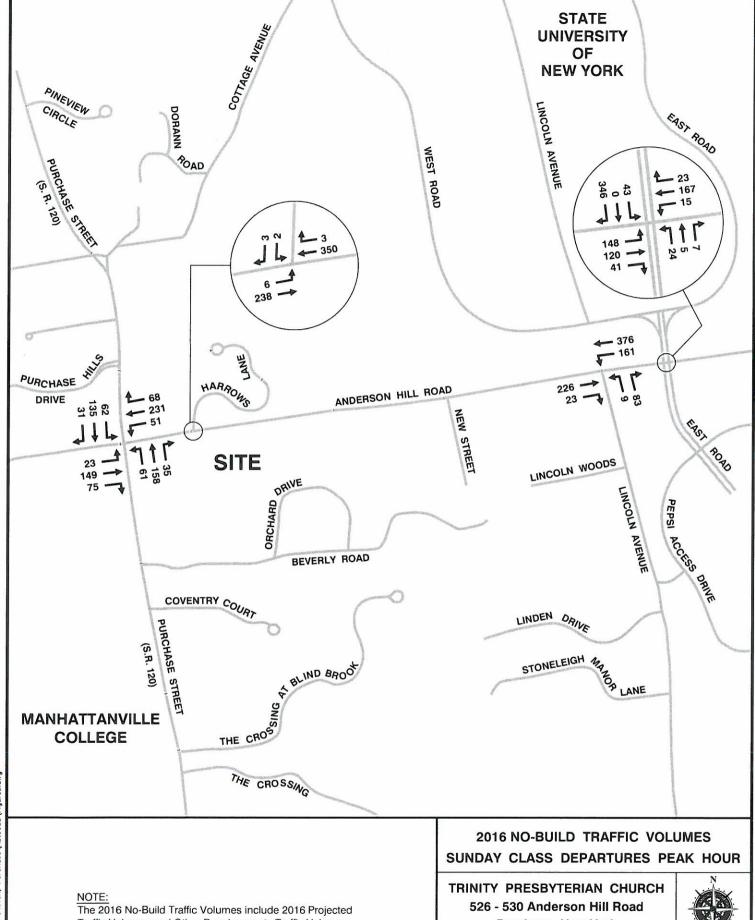
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Traffic Volumes and Other Developments Traffic Volumes.

Purchase, New York



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Not to Scale

- College Group, Meets weekly on Tuesdays from 9:00 P.M. to 10:00 P.M. with 10-15 people attending;
- Middle School Group, Meets weekly on Wednesdays from 7:00 P.M. to 8:30 P.M.
 with 4-10 people attending;
- Session Meetings, Meets once a month on Thursdays from 7:30 P.M. to 9:30 P.M. with 8-14 people attending;
- Bible Study, Meets once a month on Fridays from 7:30 P.M. to 9:00 P.M. with 10-15 people attending;
- Men's Bible Study, Meets weekly on Saturdays from 6:30 A.M. to 8:00 A.M. with
 6-12 people attending;
- Saturday Night Services, weekly on Saturdays from 6:00 P.M. to 7:00 P.M. with 10-30 people attending;
- 5 Staff Workers;
- Office Administrator, Monday through Friday 10:00 A.M. to 6:00 P.M.;
- Senior Pastor, Monday, Tuesday, Thursday, Friday and Sunday, 6:00 A.M. to 4:00
 P.M.;
- Youth Director, Monday and Thursday, 9:00 A.M. to 3:00 P.M., Tuesday, 9:00 A.M. to 10:00 P.M. and Thursday 9:00 A.M. to 3:00 P.M.;
- Sunday Service, Sundays, 9:45 A.M. 11:15 A.M.; and,
- Sunday Class, 11:30 A.M. 12:15 A.M.

Based on these activities, related traffic generation and parking demand were calculated. The peak parking demand occurs on a Sunday between 9:45 A.M. – 11:15 A.M. for a total peak parking demand of 73 spaces. The Applicant is providing 140 parking spaces, which will be adequate to handle both the typical and special events held at the Site. Estimates for the traffic and parking demand generated for these activities are summarized in Table 6. It is important to note that not all these activities will occur during the peak hours of the roadway, with many occurring when the traffic on the adjacent roads is low.

CHURCH PROPOSED DEVELOPMENT PROGRAMS, RELATED GENERATED TRAFFIC AND PARKING NEEDS ANALYSIS Table 6

Trinity Presbyterian Church 526-530 Anderson Hill Road Purchase, New York

RELATED	PARKING	(SPACES)		12			15			10			14			15			12			11			5	
VEHICLE TRIP ENDS	Departure Traffic		0	12	12	0	15	15	0	10	10	0	14	14	0	15	15	0	12	12	0	11	11	0	5	5
VEHICLE	Arrival Traffic		12	0	12	15	01	15	10	0	10	14	0	14	15	0	15	12	0	12	11	0	1	5	0	5
	TRAFFIC	DIRECTION	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
	VEHICLE	OCCUPANCY	1.00			1.00		0.00	1.00			1.00			1.00			1.00			2.79			1.00		
	NUMBER	OF PEOPLE	7-12			10-15			4-10			8-14			10-15			6-12			10-30			5		
		ACTIVITY TIMES	Tuesdays	7:00 - 8:30 P.M.		Tuesdays	9:00 - 10:00 P.M.		Wednesday	7:00 - 8:30 P.M.		Thursday	7:30 - 9:30 P.M.		Friday	7:30 - 9:00 P.M.		Saturday	6:30 - 8:00 A.M.		Saturday	6:00 - 7:00 P.M.		1		
	CHURCH	ACTIVITIES	1) High School	Youth Group	(Weekly)	2) College Group	(Weekly)		3) Middle School	Group	(Weekly)	4) Session Meetings	(Once a Month)		5) Bible Study	(Once a Month)		6) Men's Bible	Study	(Weekly)	7) Saturday Night	Services	(Once a Month)	8) Staff Workers		

					VEHICLE	VEHICLE TRIP ENDS	RELATED
		NUMBER	VEHICLE	TRAFFIC	Arrival Traffic	Departure Traffic	PARKING DEMAND
AC	ACTIVITY TIMES	OF PEOPLE	OCCUPANCY	DIRECTION			(SPACES)
Z	Monday – Friday	1	1.00	Enter	0	0	
10:00	10:00 A.M. – 6:00 P.M.			Exit	0		_
				Total	0	-	
Mon.	Mon., Tues., Thurs., Fri.	1	1.00	Enter	0	0	
	and Sun.			Exit	0	_	
00:9	6:00 A.M. – 4:00 P.M.			Total	0	-	
11) Youth Director Mor	Mon. 9 A.M. – 3 P.M.	1	1.00	Enter	-	0	
Tues	Tues. 9 A.M. – 10 P.M.			Exit	0	0	,
Wec	Wed. 9 A.M. – 9 P.M.			Total	1	0	-
Thu	Thur. 9 A.M. – 3 P.M.					7	
12) Sunday Service	Sundays	200	2.79	Enter	72	0	
9:45	9:45 A.M. – 11:15 A.M.			Exit	0	27	72
				Total	72	27	
	Sundays	126	2.79	Enter	0	0	
11:30	11:30 A.M. – 12:15 A.M.			Exit	0	45	45
				Total	0	45	

Church Generated Traffic:

- High School Youth Group Will arrive between 6:15 and 7:15 P.M. and depart between 8:15 and 9:15 P.M.
- College Group Will arrive between 8:15 and 9:15 P.M. and depart between 9:45 and 10:45 P.M.
- Middle School Group Will arrive between 6:15 and 7:15 P.M. and depart between 8:15 and 9:15 P.M.
- Session Meetings Will arrive between 6:45 and 7:45 P.M. and depart between 9:15 and 10:15 P.M.
- Men's Bible Study Will arrive between 5:45 and 6:45 A.M. and depart between 7:45 and 8:45 A.M. Bible Study – Will arrive between 6:45 and 7:45 P.M. and depart between 8:45 and 9:45 P.M.
- Saturday Night Services Will arrive between 5:15 and 6:15 P.M. and depart between 6:45 and 7:45 P.M.
- Office Administrator Will arrive after the A.M. peak hour and depart during the P.M. peak hour. Staff Workers - Will arrive during the A.M. peak hour and depart during the P.M. peak hour
 - Senior Pastor Will arrive before the A.M. peak hour and depart during the P.M. peak hour.
- Youth Director Will arrive during the A.M. peak hour and depart either before or after the P.M. peak hour.
- Sunday Service Full capacity is for 200 seats, and from surveys, 63 percent of the people will stay for the Sunday class.

Table 6 Cont'd

Sunday Class - From the surveys, 63 percent of the people attending the church service will remain for the class. 13)

Findings: The Church Activities will generate 6, 7, 72 and 45 total vehicle trip ends during the weekday morning, weekday afternoon, Sunday service arrivals and Sunday class departures peak hours, respectively.

Parking Needs Analysis:

- 1) Peak parking demand during weekdays occurs on a Tuesday evening between 9:00 10:00 P.M. for a total peak parking demand

- The facilities Peak parking demand occurs on Sunday between 9:45 A.M. 11:15 A.M. for a total peak parking demand of 73.
- Surveys conducted by applicant on Sunday, March 30, 2014, Sunday, April 6, 2014, Sunday, April 13, 2014 (Palm Sunday) and Sunday, April 20, 2014 (Easter) shows the average peak parking demand is 65. These results are in the Appendix of the report. 2) Peak parking demand during Saturday occurs between 6:00 - 7:00 P.M. for a total peak parking demand of 11.

 3) Peak parking demand during Sunday occurs between 9:45 A.M. - 11:15 A.M. for a total peak parking demand of 73.

 4) The facilities Peak parking demand occurs on Sunday between 9:45 A.M. - 11:15 A.M. for a total peak parking dema 5) Surveys conducted by applicant on Sunday, March 30, 2014, Sunday, April 6, 2014, Sunday, April 13, 2014 (Palm

Findings: The Applicant supplies 140 parking spaces, which is considered adequate to accommodate the peak parking demand found

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Based on a review of the activities 6 vehicle trip ends are estimated to enter during the weekday morning peak hour of the adjacent roadway and 7 vehicle trip ends will exit during the weekday afternoon peak hour of the adjacent roadway.

To account for Sunday's activities at the current location at School of the Holy Child in Rye, New York, the surveys were conducted during the following:

- Sunday, March 30, 2014:
- Sunday, April 6, 2014;
- Sunday, April 13, 2014 (Palm Sunday); and,
- Sunday, April 20, 2014 (Easter).

Included in these surveys were the zip code of the driver, number of people in each vehicle, if they were a member, attended regularly or visitor and if they were staying for the classes after the service. A summary of the data showed that on average for these four Sundays, which included Palm Sunday and Easter, there was a vehicle occupancy of 2.79. Also, the average percent of people remaining for the classes after the service on a typical Sunday was 63 percent. Using the vehicle occupancy of 2.79 for the proposed 200 people capacity, for the Sunday Service Arrivals peak hour there will be 72 vehicles entering. For the Sunday Class Departures peak hour, 63 percent of the members remain with 45 vehicles exiting during this peak hour.

This site traffic generation was compared to Institute of Transportation Engineers (ITE) trip generation rates, which estimates that this site would generate 2, 2, 61 and 38 vehicle trip ends during the weekday morning, weekday afternoon, Sunday service arrivals and Sunday class departure peak hours, respectively. Site traffic generation for a weekday morning and weekday afternoon peak hour is based on the 3,610 square-feet of office space as it is the only space occupied during these peak hours. To calculate site traffic generation for the Church using ITE rates for the Sunday Service Arrivals, the entering traffic from the

calculated Sunday Peak Hour of Generator was utilized, based on number of seats. To calculate site traffic generation for the Church using ITE rates for the Sunday Class Departures, the exiting traffic from the calculated Sunday Peak Hour of Generator was utilized and adjusted to account for the 63 percent of people staying for the class, based on number of seats.

This is lower than the site traffic generation calculated using the development program; so, the analysis should be considered conservative. Table 7 provides a more detailed summary, as described, for site traffic generation during peak hours.

Distribution and Assignment of Site-Generated Traffic

Directional distribution is based on review of parishioners' addresses and two non-holiday vehicle counts, which are provided in the Appendix of this report. From these addresses and zip codes, a gravity model was utilized to show the directional distribution used to assign site traffic arriving and departing the site. Figure 22 graphically illustrates the directional distribution assumed and used in the analysis peak hours. The analysis included the two full-movement access drives to Anderson Hill Road, one to the east and one to the west of Harrows Lane.

It was determined that 88 percent of the site traffic will arrive and depart from the west on Anderson Hill Road, with 49 percent from the south on NYS Route 120, 10 percent from the north on NYS Route 120 and the remaining 29 percent from the west on Anderson Hill Road. The remaining 12 percent will arrive and depart to the east on Anderson Hill Road, with 5 percent from the south on Lincoln Avenue and the remaining 7 percent from the east on Anderson Hill Road. Figure 23 graphically illustrates the site traffic distribution assumed and used in the analysis peak hours.

CHURCH TRAFFIC GENERATION - PEAK HOURS 526-530 Anderson Hill Road Trinity Presbyterian Church Purchase, New York

						VEHICLE TRIP ENDS		
						Sunday Service	Sunday Class	Sunday Peak
				Weekday Morning	Weekday Afternoon	Arrivals	Departures	Hour of
		VEHICLE	TRAFFIC	(8:00 A.M. – 9:00	(5:00 P.M. – 6:00	(9:00 A.M. – 10:00	(12:00 Noon = 1:00	Generator
LAND USE	SIZE	OCCUPANCY	DIRECTION	A.M.)	P.M.)	A.M.)	P.M.)	
1) Church	200 Seats	2.79	Enter	9	0	72	0	
(Using Vehicle			Exit	0	7	0	45	1
Occupancy)			Total	9	1	72	45	1:
2) Church	200 Seats,	1	Enter			61	0	61
(ITE Rates)	3,610 S.F. Office		Exit		_	0	38	19
	Space Only		Total	2	17	61	38	122

- 1) Church Traffic generation was extracted from Table 6 for the proposed development programs. The following will arrive and/or depart during the weekday peak hours, while the remaining activities will occur either before or after the weekday peak hours:
 - a. Staff Workers Will arrive during the A.M. peak hour and depart during the P.M. peak hour.
- b. Office Administrator Will arrive after the A.M. peak hour and depart during the P.M. peak hour.
 - c. Senior Pastor Will arrive before the A.M. peak hour and depart during the P.M. peak hour.
- d. Youth Director Will arrive during the A.M. peak hour and depart either before or after the P.M. peak hour.
- Counts were conducted at the current services at the School of the Holy Child in Rye, New York on Sunday, March 30, 2014, Sunday, April 6, 2014, Sunday, April 13, 2014 (Palm Sunday) and Sunday, April 20, 2014 (Easter). From these counts it was determined that the vehicle occupancy was 2.79. On average, 63 percent of the parishioners remain for the class after the service.
 - "Trip Generation," 9th Edition, published by the Institute of Transportation Engineers (ITE), 2012, using Church, Code #560 Average Rates.

- 1) The development consists of 3,610 S.F. of Office space used throughout the week and less on Sunday, 6,660 S.F. of Classrooms only used on Sunday afternoons and 4,400 S.F. of Sanctuary space only used Sunday mornings.
- 2) ITE trip rates for the weekday morning and afternoon peak hours are based on the 3,610 square-feet of office space as it is the only space occupied during these peak hours.

 3) To calculate site traffic for the Church using ITE rates for the Sunday Service Arrivals, the entering traffic from the calculated Sunday Peak Hour of Generator was utilized, based on number of seats.

 4) To calculate site traffic for the Church using ITE rates for the Sunday Class Departures, the exiting traffic from the calculated Sunday Peak Hour of Generator was utilized and adjusted to account for the
 - 63 percent of people staying for the class, based on number of seats.

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Site Access Drive

Directional Distribution is based on review of parishioners addresses and two Non-Holiday counts provided in the Appendix. From these addresses and Zip Codes, gravity model was utilized to show the Directional Distribution to be used to assign Site Traffic arriving and departing at Study Area Intersections.

TRINITY PRESBYTERIAN CHURCH 526 - 530 Anderson Hill Road Purchase, New York

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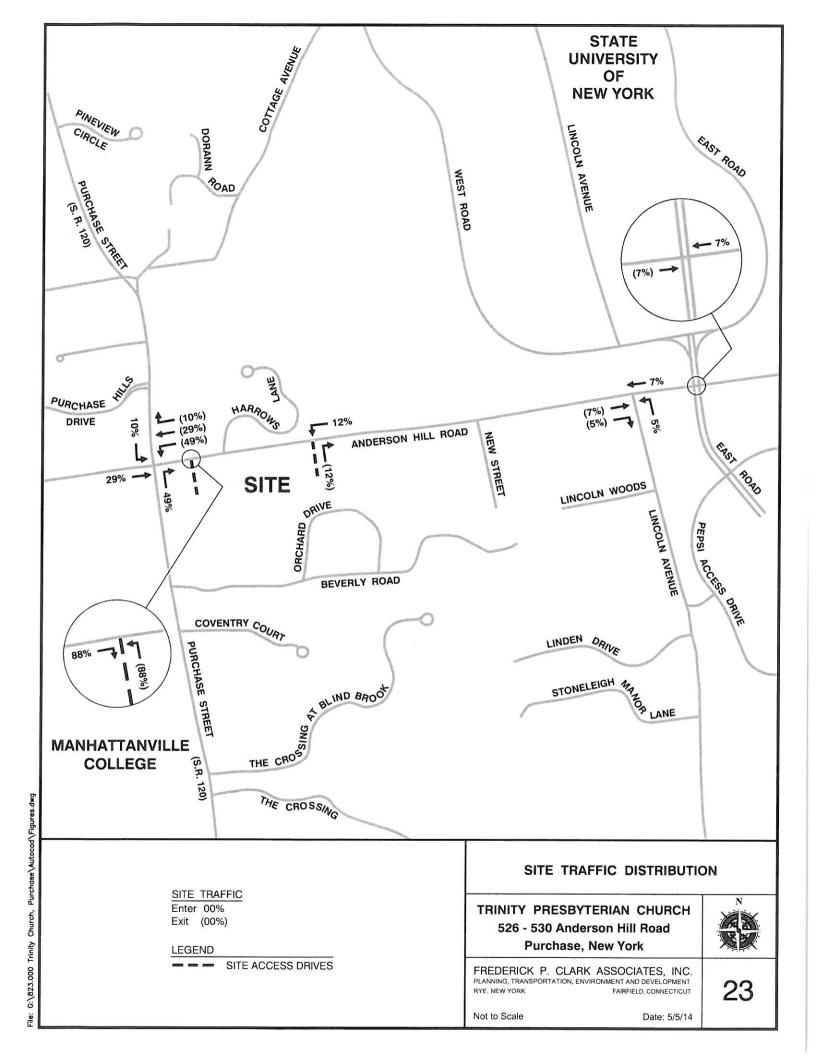
PLANNING, TRANSPORTATION, ENVIRONMENT AND DEVELOPMENT RYE, NEW YORK FAIRFIELD, CONNECTICUT

Not to Scale



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Date: 5/5/14



Figures 24 through 27 show the site traffic generation and assignment for the weekday morning, weekday afternoon, Sunday service arrivals and Sunday class departures peak hours, respectively.

Build Traffic Volumes

Build traffic volumes were developed based on adding the site-generated traffic to the no-build traffic volumes described above for a 2016 design year. Figures 28 through 31 graphically illustrate the build traffic volumes for the weekday morning, weekday afternoon, Sunday service arrivals and Sunday class departures peak hours, respectively.

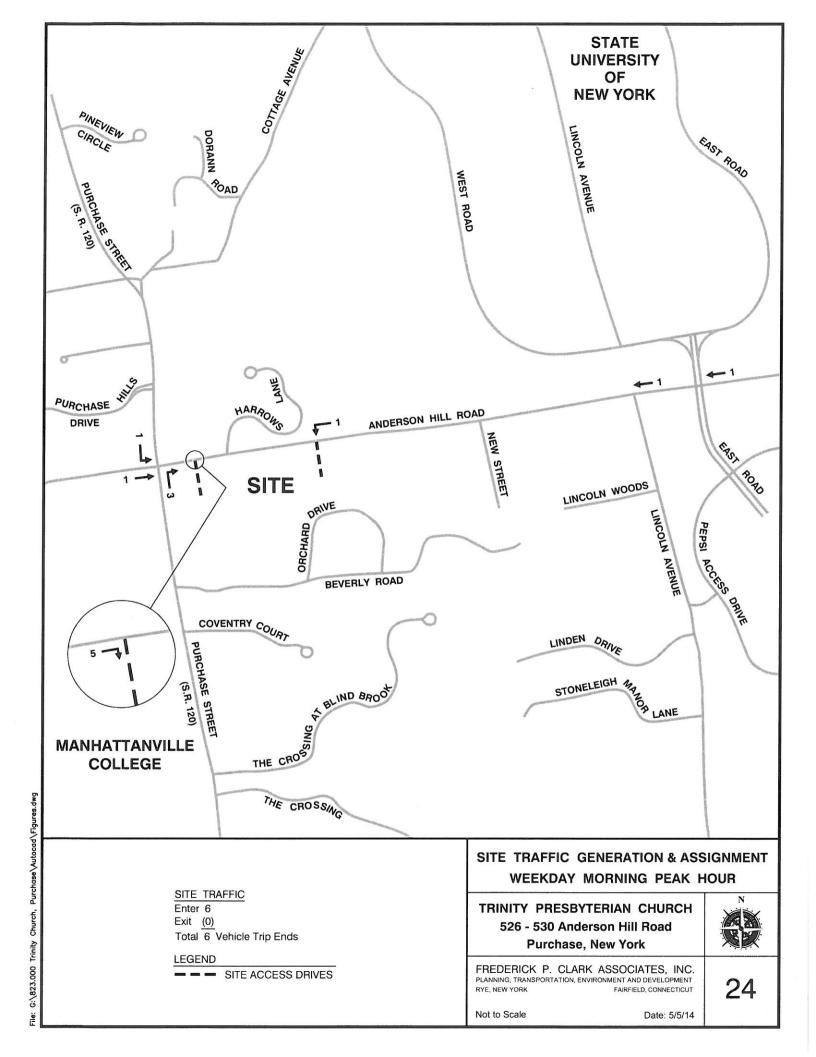
Capacity Analysis Results - No-Build and Build Conditions

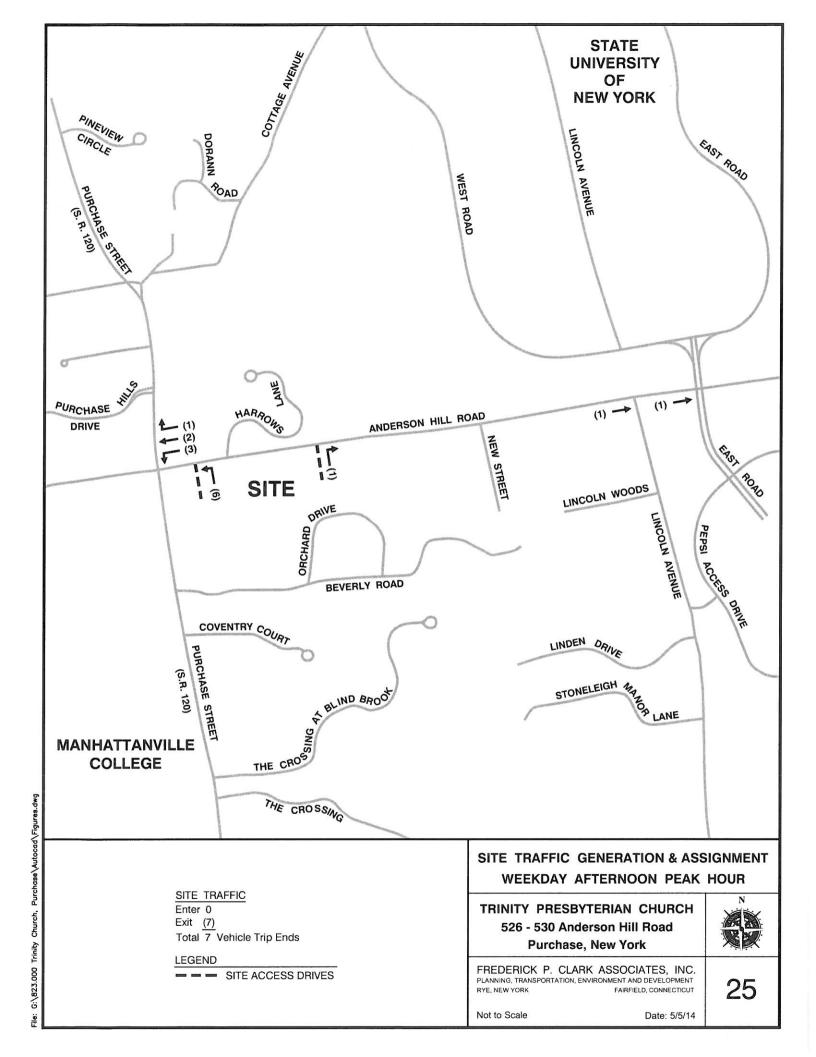
To determine the potential impact of area roadways, capacity analyses were completed for the signalized intersection included in this designated Study Area, two-way STOP controlled intersection near the site, as well as the site access drives. The comparison between a no-build and build condition provides the potential impact from the proposed development. Based on the results of the analysis any needed mitigation is identified. A peak hour factor (PHF) of 0.50 was utilized for the capacity analysis for the site entering and exiting volumes during the Sunday service arrivals and Sunday class departure peak hours to account parking characteristics at the site.

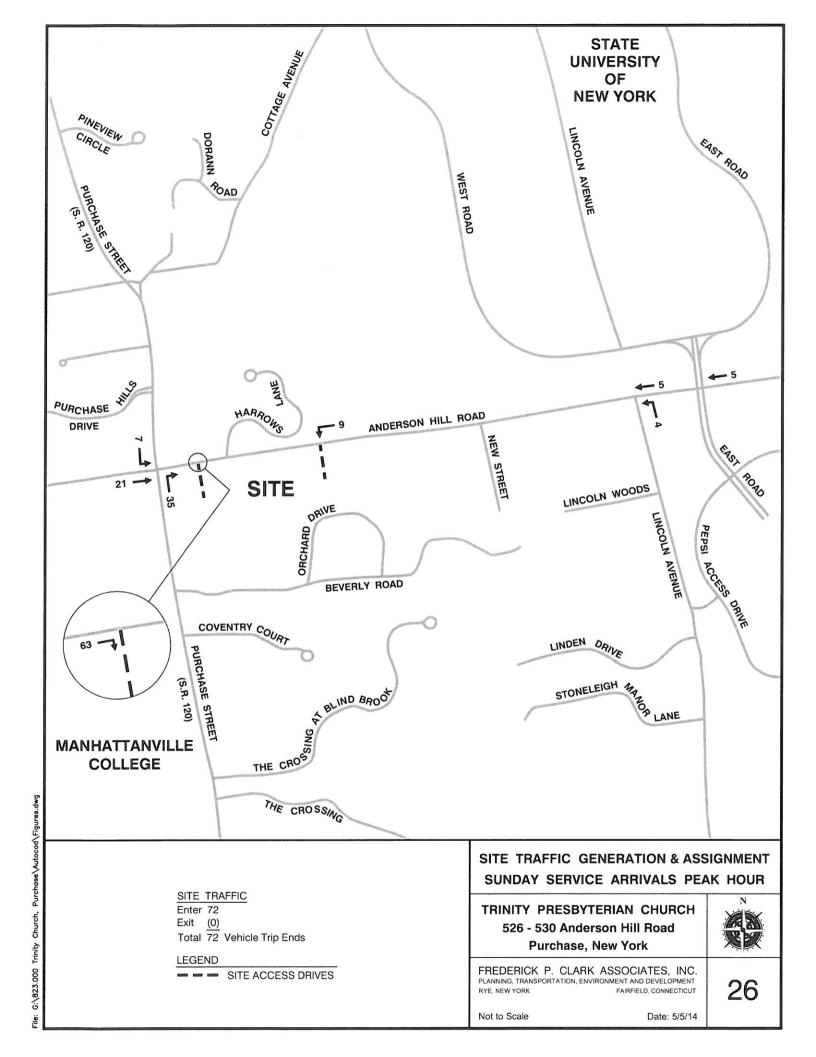
1. Purchase Street (NYS Route 120) at Anderson Hill Road

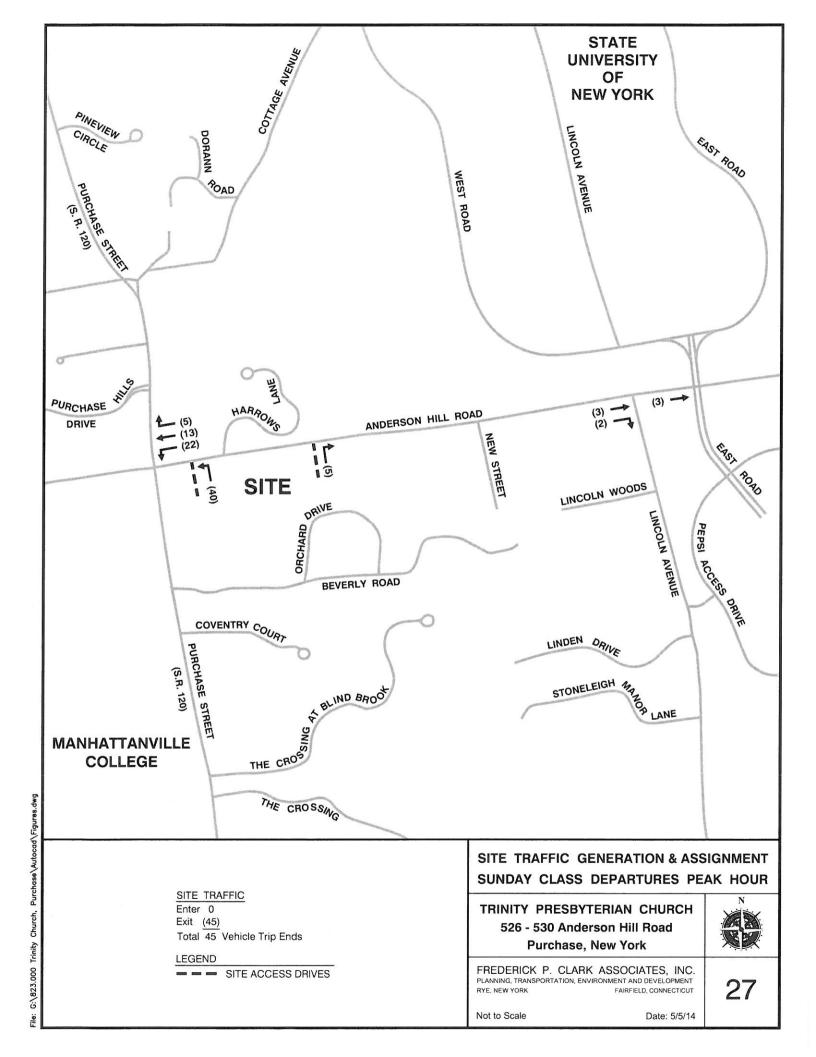
No-Build – Results of the analysis for this condition indicate that it will operate at an overall Level of Service "D," "C," "B" and "B" during the weekday morning, weekday afternoon, Sunday service arrivals and Sunday class departures peak hours, respectively.

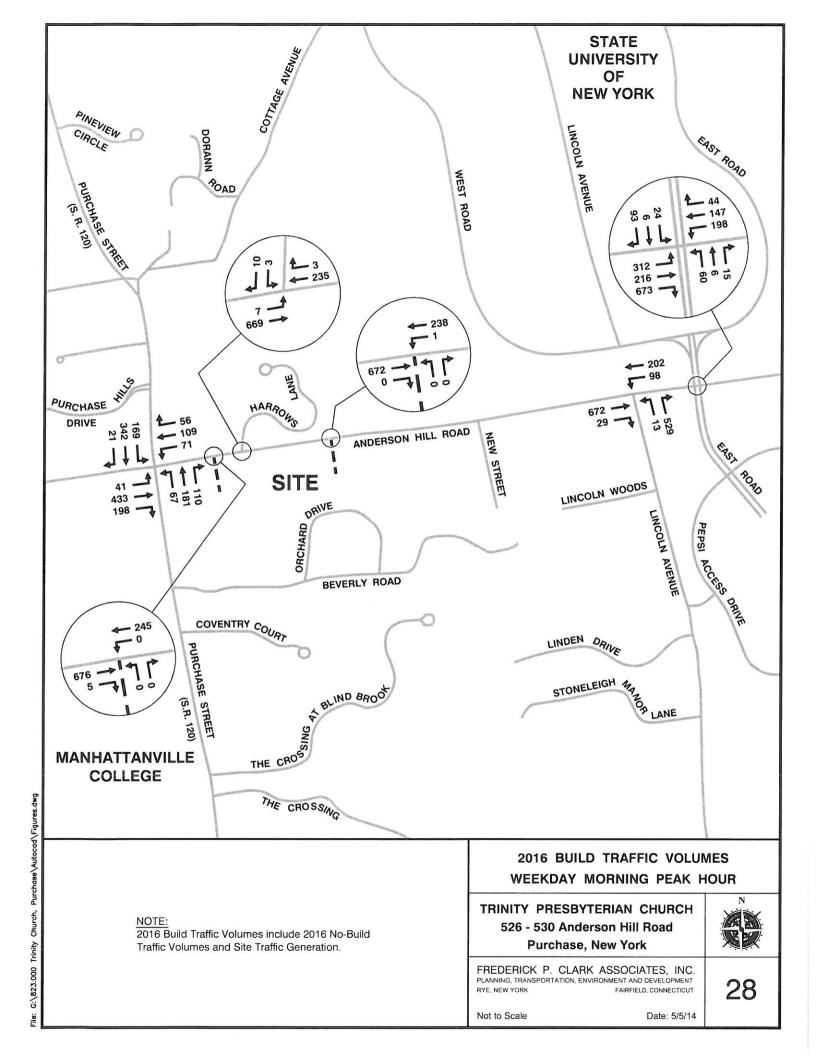
Build – Results of the analysis indicate that the Level of Service will remain the same, with an acceptable increase in vehicle delay for the weekday morning, weekday afternoon and Sunday service arrivals peak hours. There will be a change in Level of Service from "A" to "B" for the northbound left turn lane group, from

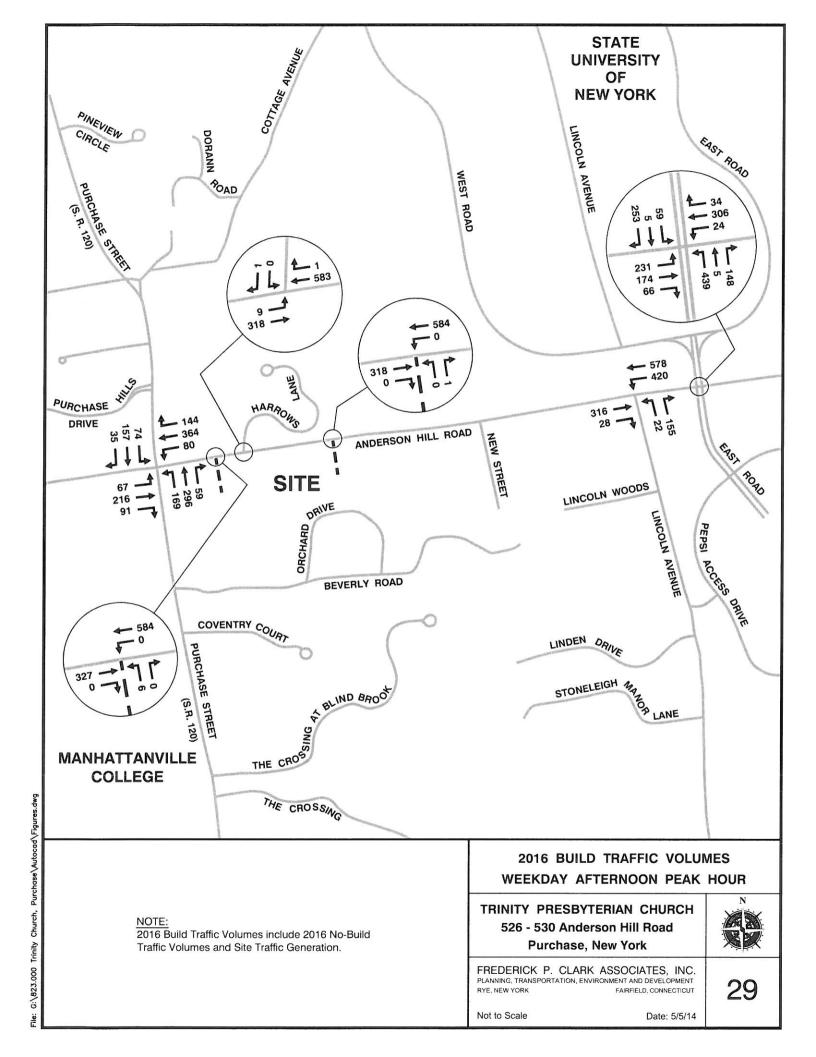


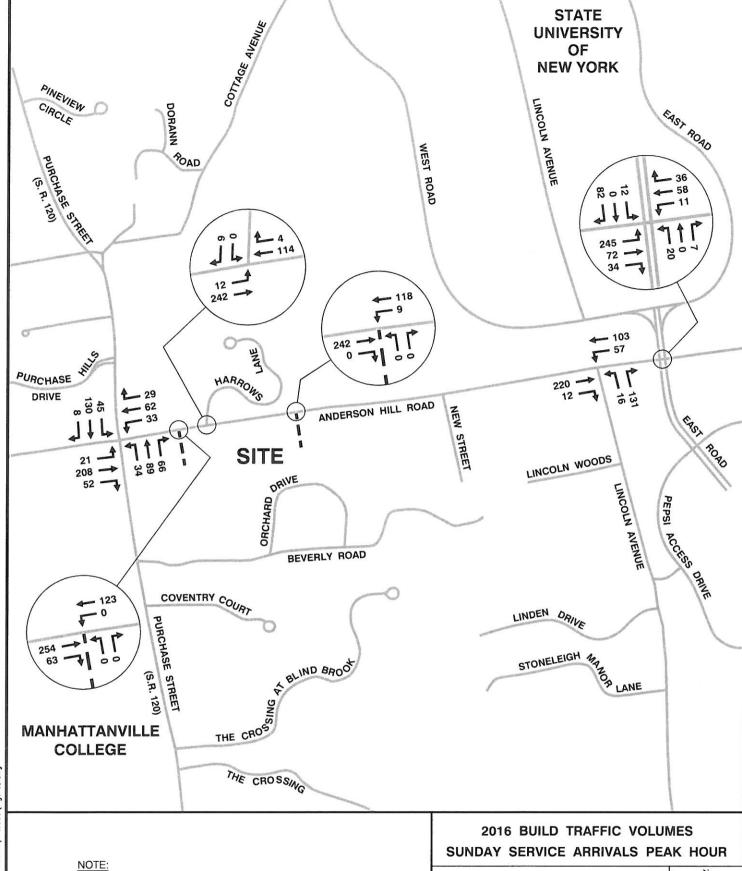












- 2016 Build Traffic Volumes include 2016 No-Build Traffic Volumes and Site Traffic Generation.
- A Peak Hour Factor of 0.50 was utilized for the Capacity Analysis for the Site Entering and Exiting volumes based on similar facilities, to be conservative.

TRINITY PRESBYTERIAN CHURCH 526 - 530 Anderson Hill Road Purchase, New York



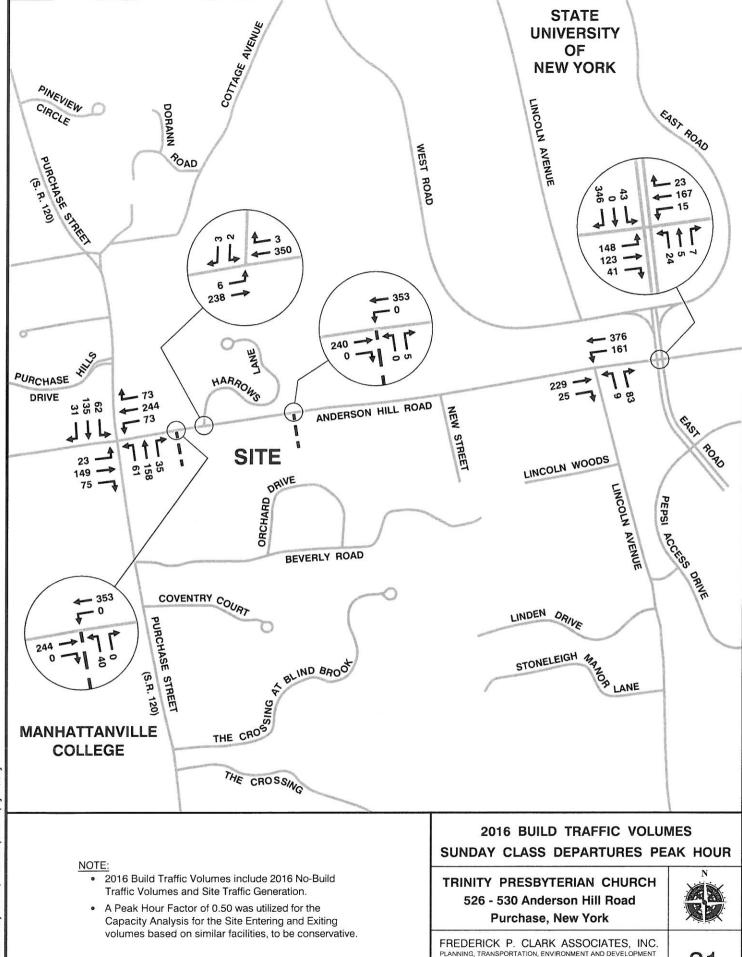
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FAIRFIELD, CONNECTICUT

Date: 5/5/14

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"B" to "C" for the northbound through/right lane group and from "B" to "C" for the intersection overall for the Sunday class departures peak hour. These changes in Levels of Service during this time period is due to time previously allocated to these northbound lane groups being reallocated to the westbound approach to account for the additional volumes.

2. Anderson Hill Road at Harrows Lane

No-Build – Results of the analysis for this condition indicate that it will operate at a Level of Service "B," "B," "A" and "B" or better during the weekday morning, weekday afternoon, Sunday service arrivals and Sunday class departures peak hours, respectively.

Build – Results of the analysis indicate that the Level of Service will remain the same with a minimal increase in vehicle delay.

3. Anderson Hill Road at Lincoln Avenue

No-Build – Results of the analysis for this condition indicate that it will operate at an overall Level of Service "D," "B," "B" and "B" during the weekday morning, weekday afternoon, Sunday service arrivals and Sunday class departures peak hours, respectively. The northbound left/right lane group and northbound approach operate at a Level of Service "E".

Build – Results of the analysis indicate that the Level of Service will remain the same, with an acceptable increase in vehicle delay for all peak hours.

4. Anderson Hill Road at PepsiCo Access Drive/SUNY Purchase Access Drive

No-Build – Results of the analysis for this condition indicate that it will operate at an overall Level of Service "A," "C," "A" and "A" during the weekday morning, weekday afternoon, Sunday service arrivals and Sunday class departures peak hours, respectively.

Build – Results of the analysis indicate that the Level of Service will remain the same, with an acceptable increase in vehicle delay for all peak hours.

Tables 8 and 9 provide a more detailed summary of the results of the analyses, as described above. This table provides Level of Service, average vehicle delay, volume to capacity ratio and the vehicle queue for each movement during each of the peak hours for a no-build and builds condition. It provides a comparison between the two conditions, which identifies the potential impact. The capacity worksheets are included in the Appendix of this report.

Site Access Considerations

It is proposed that the site will have access drives on the eastern and western side of the subject property. Both of these driveways will be two-way full-movement access drives. The driveway layout has been designed to minimize any potential direct impacts to Harrows Lane, which is located directly across from the subject property. By splitting the proposed access drives site traffic will generally be reduced at this intersection.

Intersection/Stopping Sight Distance Analysis

As noted above, the 85th percentile speed of motorists traveling on Anderson Hill Road was identified for each of the days that the machine counts were conducted. Based on the results of this information the 85th percentile speed was 45 miles per hour in the eastbound direction and 44 miles per hour in the westbound direction. The desired Intersection Sight Distance (ISD) is based on standards prepared by Westchester County Department of Public Works (WCDPW). The desired ISD for the posted speed limit of 35 miles per hour for a left turn from stop is 390 feet and for a right turn from stop it is 335 feet. For the 85th percentile operational speed, the desired ISD is 500 feet for a left turn from stop and 430 feet for a right turn from stop.

Table 8
2016 FUTURE CONDITIONS – MEASURE OF EFFECTIVENESS (MOE) AND IMPACT ASSESSMENT – WEEKDAY PEAK HOURS
Trinity Presbyterian Church
526-530 Anderson Hill Road

derson Hill Ro e, New York	5-530 Anderson Hill Road Purchase, New York	=	ad	
derson Hi e, New Y	0 Anderson Hi chase, New Y	in	II Ro	ork
ders e, N	0 Anders chase, No	1	H uc	Y wa
	0 An	300	derse	e, Ne

					2016 NO	O-BUILL	-BUILD CONDITIONS	LIONS			2016	BUILD	2016 BUILD CONDITIONS	SNO			PROJECT	PROJECT IMPACTS	
					Morning	1100110	A	Afternoon		2	Morning		A	Afternoon		Mo	Morning	After	Afternoon
	CONTROL	STORAGE/	I V OI JAILE		Citi	Queue			Queue	0	(Queue			Queue	Deterior-	Project	Deterior-	Project
INTERSECTION	TYPE	LENGTH	UNITS	LOS/ Delay	V/C Ratio	(Feet)	LOS/ Delay	V/C Ratio	(Feet)	LOS/ Delay	V/C Ratio	Length (Feet)	LOS/ Delay	V/C Ratio	Length (Feet)	ation in	(Seconds)	ation in	Delay (Seconds)
Purchase Street (NYS	Traffic Signal	1,500	EB LTR	D/44.3	0.94	672	C/25.1	0.73	232	1_	0.95	674	C/24.8	0.72	231	N	0.1	N	0.0
Route 120) at		1	7	D/44.3	;	1	C/25.1	1	;	D/44.4	1	1	C/24.8	; ;	1	S o	0.1	N N	0.0
Anderson Hill Road		290	WB LTR	B/17.7	0.50	161	D/39.8	0.93	424	B/17.7	0.50	191	D/40.9	0.93	432	No	0.0	o Z	; -
		1	APP.	B/17.7	:	ı	D/39.8	ł	;	B/17.7	;	ı	D/40.9	1	;	No	0.0	°Ž	-
		150	NB L	D/36.6	0.42	9	B/18.4	0.43	92	D/36.8	0.42	65	B/18.5	0.43	92	No	0.2	S	0
		1,045	TR	D/51.4	0.79	353	C/30.7	89.0	287	D/52.5	0.81	361	C/31.0	69.0	287	N ₀	=	N N	0.3
		1	APP.	D/48.6	1	;	C/26.7	1	1	D/49.6	1	;	C/26.9	1	ı	No	1.0	°N	0.2
		150	SB L	D/41.5	0.64	153	B/17.7	0.28	45	D/42.4	99.0	155	B/19.7	0.28	42	No	6.0	°Z	2.0
		290	TR	D/45.5	0.78	430	C/24.2	0.44	134	D/45.7	0.78	430	C/24.3	0.44	134	No	0.2	°N	0.1
		1	APP.	D/44.3	1	1	C/22.4	F	ı	D/44.7	;	;	C/22.5	1	1	No	0.4	S _o	0.1
		1	Overall	D/41.6	1	:	C/30.1	ı	ı	D/42.0	:	:	C/30.5	ŀ	:	No	0.4	No	0.4
Anderson Hill Road at	LWSC	590	EB L	A/0.1	0.01	0	A/0.1	0.01	-	A/0.1	0.01	0	A/0.1	0.01	_	No	0.0	No	0.0
Harrows Lane		300	SB L	B/12.0	0.03	7 0	A/0.0	0.00	0	B/12.0	0.03	7	A/0.0	0.00	0	No	0.0	No	0.0
		300	×	B/12.0	0.03	2	B/12.5	0.00		B/12.0	0.03	2	B/12.5	0.00	0	No	0.0	oN.	0.0
Anderson Hill Koad at	Traffic Signal	1,365	EB TR	D/41.3	0.89	640	C/22.6	0.40		D/41.3	68.0	640	C/22.7	0.41	301	No	0.0	No	0.1
Lincoln Avenue		1 6	APP.	D/41.3	ı	1	C/22.6	1		D/41.3	:	1	C/22.7	ı	1	No	0.0	No	0.1
		200	WB L	D/41.7	0.62	84	B/10.1	0.68	137	D/41.6	0.62	84	B/10.2	89.0	138	No	0.0	°N	0.1
		470	<u>.</u>	B/12.8	0.21	101	A/5.7	0.44		B/12.8	0.21	102	A/5.7	0.44	177	No	0.0	No	0.0
		1		C/22.2	ı	:	A/7.6	:	ı	C/22.2	ŀ	;	9.7/A	1	1	N _o	0.0	No No	0.0
		850	NB LR	E/61.5	0.97	528	D/52.9	0.72	173	E/61.5	0.97	528	D/52.9	0.72	173	No	0.0	No	0.0
3		;	APP.	E/61.5	1	;	D/52.9	1	1	E/61.5	;	;	D/52.9	;	:	No	0.0	No	0.0
		1	Overall	D/44.7	1	1	B/16.2	1	1	D/44.7	1	;	B/16.3	:	ŀ	%	0.0	No.	0.1
Anderson Hill Road at	Traffic Signal	250	EB L	A/8.2	0.57	79	B/14.9	0.58	52	A/8.2	0.57	79	B/15.0	0.58	52	No	0.0	No	0.1
Pepsico Access Drive/		135	<u> </u>	B/10.4	0.18	37	B/10.1	0.12		B/10.4	0.18	37	B/10.0	0.13	45	No	0.0	°Z	0.0
Access Drive		173	A A	A/5.0	0.70	49	A/4.6	0.10	_	A/5.0	0.70	49	A/4.6	0.10	25	°N	0.0	o N	0.0
Access Dilve		1 6	APP.	A/6.8	1 3	1 9	B/11.7	1 8		A/6.8	1	1	B/11.7	1	1	No No	0.0	N _o	0.0
		057	WB L	B/1/./	0.44	99 5	B/16.0	0.05	24	B/17.7	0.44	100	B/16.0	0.05	24	%	0.0	°Z	0.0
		6,975	I K	B/16./	0.18	2/	C/24.9	0.32	202	B/16.7	0.18	27	C/24.9	0.32	122	No No	0.0	No No	0.0
		1 2	APP.	B/1/.2	1 5	: ;	C/24.3	1 3	2.00	B/17.3	1	1	C/24.3	I	:	S _o	0.1	So No	0.0
		001	NB L	C/22.3	0.15	55	D/52.4	0.92	438	C/22.3	0.15	55	D/52.4	0.92	438	No	0.0	No	0.0
		775	— f	C/20.2	0.01	Ξ ,	B/15.4	0.01		C/20.2	0.01	=	B/15.4	0.01	∞	%	0.0	No	0.0
		150	× .	A/0.1	0.03	0	A/3.6	0.22		A/0.1	0.03	0	A/3.6	0.22	35	No	0.0	No	0.0
		1 1	APP.	B/18.0	1	1 ;	D/39.9	1		B/18.0	!	1	D/39.9	ı	ı	%	0.0	S _o	0.0
		375	SB L	C/21.0	0.06	28	B/16.8	0.11	46	C/21.0	90.0	28	B/16.8	0.11	46	No	0.0	No	0.0
		375	Y.	A/8.1	0.10	78	A/4.0	0.19	36	A/8.1	0.10	28	A/4.0	0.19	36	No	0.0	No	0.0
		CC7	X ·	A/0.5	0.09	0	A/3.7	0.19	34	A/0.3	60.0	0	A/3.7	0.19	34	No	0.0	No	0.0
		ı	APP.	A/7.6	E	1	A/6.2	ı	ŀ	A/7.6	;	1	A/6.2	1	:	No	0.0	S _o	0.0
		1	Overall	9.6/A	:	1	C/22.9	1	:	9.6/A	1	;	C/22.9	;	;	No	0.0	N _o	0.0

Table 8 Cont'd.

					2016 NO	J-BUILL	2016 NO-BUILD CONDITIONS	LIONS			2016	3UILD C	2016 BUILD CONDITIONS	SNC			PROJECT IMPACTS	IMPACTS	
					Morning		A	Afternoon		2	Morning		A	Afternoon		Mon	Morning	Afternoon	noon
		STORAGE/				Onene			Onene		_	Onene			Onene	Deterior-	Project	Deterior-	Project
	CONTROL	LINK	PHYSICAL	ros/	N/C	Length	ros/								Length	ation in	Delav	ation in	Delav
INTERSECTION	TYPE	LENGTH	UNITS	Delay	Ratio	(Feet)	Delay	Ratio	(Feet)	Delay	Ratio	(Feet)	Delay	Ratio	(Feet)	TOS	(Seconds)	TOS	(Seconds)
Anderson Hill Road at	TWSC	100	WB L							1		┖	1		0				
Site Access Drive West		100	NB L	N/A	N/A	N/A	N/A	N/A	N/A		0.00	0	C/18.5	0.02	7	A/N	N/A	N/A	N/A
		100	R							A/0.0	0.00	0	A/0.0	0.00	0				
Anderson Hill Road at	TWSC	4,000	WB L							A/0.0	0.00	0	A/0.0	0.00	0				
Site Access Drive East		100	NB L	N/A	N/A	N/A	N/A	N/A	N/A	A/0.0	0.00	0	A/0.0	0.00	0	N/A	N/A	A/N	A/N
		100	R							A/0.0	0.00	0	B/10.2	0.00	0				

Notes:

- Synchro 8.0 is used for capacity analysis.
- Level of Service determining parameter is called the service measure.
- For Signalized Intersections: Level of Service/Average Total delay per vehicle (seconds/vehicle).
 - TWSC = Two-Way STOP Control.
- For TWSC Intersections: Level of Service/Average Control delay per vehicle (seconds/vehicle).

 ITE publication for Traffic Access and Impact Studies for site development "A Recommended Practice" indicated that overall Level of Service ratings of A to D are normally considered acceptable for signalized intersections (Level C or better are considered desirable). Levels of Service E and F are normally undesirable.
 - V/C ratio indicates the amount of congestion for each Lane Group or Movement. Any V/C ratio greater than or equal to one indicates that the Lane Group or Movement is operating at above capacity.
 - Synchro 8.0 Macroscopic model is used for storage/queue analysis.
- The Queue Length rows show the 95th percentile maximum queue length in feet.
- The Queue Length is for each lane. The total queue length is divided by the number of lanes and the lane utilization factor.
 - The 95th percentile queue is the maximum back of the queue with the 95th percentile traffic volumes.
 - Bolded 95th percentile queue exceeds the storage available.
 - N/A = Not Available.
- Physical Units consist of the following:
- Lane Group and Intersection Overall for Traffic Signal Controlled Intersections.
 Movement for TWSC Intersections.

WB = WestboundAPP. = Approach SB = Southbound R = Right Turn NB = Northbound EB = Eastbound L = Left Turn T = Through

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Table 9
2016 FUTURE CONDITIONS – MEASURE OF EFFECTIVENESS (MOE) AND IMPACT ASSESSMENT – SUNDAY PEAK HOURS
Trinity Presbyterian Church
526-530 Anderson Hill Road
Purchase, New York

	Class Departures	Project	(Seconds)	0.0	0.0	3.6	3.6	0.7	Ξ	6.0	0.7	6.0	6.0	1.6	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PROJECT IMPACTS	Class D	Deterior-	ation in	No	No	No	No	A - B	B-C	No	No	No	No	B-C	No	N _o	°N	No	°N	No	N _o	No	No	No	No	No	No	°Z	No	N _o	No	N _o	No	No	No	No	No	No	No	No	No
PROJECT	Arrivals	Project	(Seconds)	0.2	0.2	0.0	0.0	0.4	1.2	1.4	9.0	0.5	0.4	0.5	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	Service	Deterior-	ation in	No	No	No	°N	No	N _o	No	No	No	°N	No	No	°N	°Ž	No	°N	°N	N _o	No	No	No No	No No	No	No No	°N	No No	°N	oN.	°Z	No No	°N	No	No	No No	No	°Z	No	No
	ıres	Queue	Length (Feet)	134	I	223	ı	33	131	:	34	105	;	1	0	_	-	140	1	37	81	1	66	1		35	59	4	:	15	64	!	27	6	0	ı	40	0	0	;	ł
SNC	Class Departures		V/C Ratio	0.52	1	0.81	1	0.13	0.37	ŀ	0.12	0.30	:	1	0.01	0.01	0.01	0.26	1	0.23	0.29	ı	0.58	1	ı	0.36	0.10	0.07	1	0.03	0.20	!	80.0	0.01	0.01	;	0.10	0.21	0.22	;	1
2016 BUILD CONDITIONS	Class		LOS/ Delav	B/18.5	B/18.5	C/28.9	C/28.9	B/10.4	C/20.1	B/17.7	6.6/A	B/17.2	B/15.3	C/21.3	A/0.1	B/11.8	B/11.8	B/12.0	B/12.0	A/3.7	A/3.3	A/3.4	D/49.2	D/49.2	B/10.7	A/8.4	A/9.1	A/1.3	A/7.7	B/11.9	B/20.0	B/19.4	B/19.4	B/18.2	A/0.0	B/15.4	B/19.6	A/0.5	A/0.5	A/2.6	A/8.4
UILDC	S	Onene	ength (Feet)	\vdash		9			116		24	83	_ :	_ 	-	0	_	129		18		1	138		1		_	2	1		28		24	0	0	-	17	0	0	1	-
2016 B	Service Arrivals	_	V/C Le	\vdash	1	0.33	-	.07	0.29	1	80.0	.21	;	;	0.01	0.00	0.01	0.24	1	60.0	60.0	;	69.0	:	-	0.50	.05	0.05	1	0.03	01.0	1	90.0	0.00	0.01	:	0.03	0.05	0.05		-
	Service	- 65	LOS/ V	+	ronsses	737	1000	337,152				_	_	B/18.1	S	(188)	200			200	9339			B	B/19.4	-				- 	2000		C/21.1 0			_	_	A/0.1 0		A/2.6	/8.2
			Length L (Feet) D	⊢		188 B	2000		131 B		34 A		- B	- B	V 0	1		136 B.		37 A			99 D			35 A		4			64 B.		27 C		0		40 C	0	0	∀	- -
SNC	Class Departures		V/C Le Ratio (F	+		0.75 1			_			0.29	_	1		0.01	_	0.26			0.29		0.58	1				0.07	_		0.20				0.01		_	20.000	0.22	1	-
-BUILD CONDITIONS	Class D		LOS/ Delay R	+								<u>s—</u>	B/14.4	B/19.7	·	- 25		B/12.0 0		_			53145 153945	D/49.2		A/8.4 0				100		10 TH				34			_	A/2.6	8.4
ULD CC				-					12-80												- Y	¥	\$10 150 \$200000						<u> </u>	B/	B/2	OTHER STREET	1000			B/	/B/	7	_	- A	<u> </u>
NO-BI	rrivals		C (Feet)			4 66	1	- N	1 89			1 80		ł		0		4 128		9 18	9 27		8 135		1			2	-	3	0 26				1 0	-	3 17	5 0	0	_	-
2016 NG	Service Arrivals		y Ratio	.4 0.67	_	.0 0.34		9 0.07			3 0.06		£.	9.	_		- 8	.5 0.24	_		8 0.09		9.0 9.	9	.3			4 0.05		_	.2 0.10				0 0.01	_		1 0.05		- 9	-
Ш	7		LOS/ Delay	C/24.4	C/24.4	B/15.0	B/15.0	A/7.9	B/17.5	B/15.4	A/7.3	B/12.4	B/11.3	B/17.6	A/0.1	A/0.0	A/9.0	B/11.5	B/11.5	A/4.1	A/3.8	A/3.9	D/48.6	D/48.6	B/19.3	A/9.0	A/6.6	A/0.4	A/7.	B/11.0	B/13.2	B/13.0	C/21.1	A/0.0	A/0.0	B/15.6	C/20.7	A/0.1	A/0.1	A/2.6	A/8.
			PHYSICAL	LTR	APP.	LTR	APP.	l)	TR	APP.	J	TR	APP.	rall	L	7 '	~	TR	APP.	J	Н	APP.	LR	APP.	rall	Γ	L	R	APP.		TR	APP.	J	L	×	APP.	_ı	TR	×	APP.	rall
		-	Ξ_	EB		WB		RB			SB			Overall	EB	SB		EB		WB			NB		Overall	EB				WB			RB				SB				Overall
		STORAGE/	LENGTH	1,500	1	280	1	150	1,045	1	150	590	E	1	280	300	300	1,365	l	200	470	ŀ	820	1	;	250	470	125	1	230	2,975	1	150	775	150	1	375	375	255	ı	1
			TYPE	Traffic Signal											TWSC			Traffic Signal								Traffic Signal															
			INTERSECTION	Purchase Street (NYS	Route 120) at	Anderson Hill Road									Anderson Hill Road at	Harrows Lane		Anderson Hill Road at	Lincoln Avenue							Anderson Hill Road at	Pepsico Access Drive/	SUNY Purchase	Access Drive												

					2016 NO-	BUIL	D CONDITIONS	LIONS			2016	BUILD	2016 BUILD CONDITIONS	SNC			PROJECT	PROJECT IMPACTS	
				Serv	Service Arrivals	vals	Class	Class Departures	res	Servi	Service Arrivals	als	Class	Class Departures	res	Service Arrivals	Arrivals	Class Departures	partures
		STORAGE/				Onene			Onene		_	Onene			Onene	Deterior-	Project	Deterior-	Project
	CONTROL	LINK	PHYSICAL	ros/	N/C	Length	ros/	N/C	Length	ros/	NC I	Length	LOS/		Length	ation in	Delay	ation in	Delay
INTERSECTION	TYPE	LENGTH	CINITS	Delay	Delay Ratio	(Feet)	Delay	Ratio	(Feet)	-		(Feet)	Delay	Ratio	(Feet)	TOS	(Seconds)	ros	(Seconds)
Anderson Hill Road at	TWSC	100	WB L							1		0	A/0.0	0.00	0				
Site Access Drive West		100	NB L	N/A	N/A	N/A	N/A	N/A	N/A	A/0.0	0.00	0	C/15.1	0.18	17	N/A	N/A	A/N	N/A
		100	R							A/0.0	0.00	0	A/0.0	00.0	0				
Anderson Hill Road at	TWSC	4,000	WB L							A/0.1	0.01	_	A/0.0	0.00	0				
Site Access Drive East		100	NB L	N/A	N/A	N/A	N/A	N/A	N/A	A/0.0	0.00	0	A/0.0	0.00	0	N/A	N/A	A/N	N/A
		100	R							A/0.0	0.00	0	A/9.7	0.01	_			** 6	

Notes:

Synchro 8.0 is used for capacity analysis.

Level of Service determining parameter is called the service measure.

For Signalized Intersections: Level of Service/Average Total delay per vehicle (seconds/vehicle).

TWSC = Two-Way STOP Control.

For TWSC Intersections: Level of Service/Average Control delay per vehicle (seconds/vehicle).

ITE publication for Traffic Access and Impact Studies for site development "A Recommended Practice" indicated that overall Level of Service ratings of A to D are normally considered acceptable for signalized intersections (Level C or better are considered desirable). Levels of Service E and F are normally undesirable.

V/C ratio indicates the amount of congestion for each Lane Group or Movement. Any V/C ratio greater than or equal to one indicates that the Lane Group or Movement is operating at above capacity.

Synchro 8.0 Macroscopic model is used for storage/queue analysis.

The Queue Length rows show the 95th percentile maximum queue length in feet.

The Queue Length is for each lane. The total queue length is divided by the number of lanes and the lane utilization factor.

The 95th percentile queue is the maximum back of the queue with the 95th percentile traffic volumes.

Bolded 95th percentile queue exceeds the storage available.

N/A = Not Available.

Physical Units consist of the following:

1. Lane Group and Intersection Overall for Traffic Signal Controlled Intersections.

2. Movement for TWSC Intersections.

SB = Southbound WB = Westbound R = Right Turn APP. = ApproachAPP. = Approach NB = Northbound EB = Eastbound T = ThroughL = Left Turn

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At the site access drive west, the ISD measured to the left is in excess of 500 feet and to the right is 460 feet. At the site access drive east, the ISD measured to the left is 460 feet and to the right is in excess of 500 feet. The ISD to the right at the site access drive west and to the left at the site access drive east meet an ISD for 41.4 miles per hour, which is acceptable to WCDPW.

Stopping Sight Distance (SSD) was conducted for the site access drive west for the westbound direction and site access drive east for the eastbound direction. Typically SSD standards are based on the posted speed limit and not the 85th percentile speed. Upon the request of WCDPW, the required SSD is provided for both. The required SSD is from Geometric Design of Highways and Streets, published in 2011 by the American Association of State Highway and Transportation Officials (AASHTO), Equation 3-2 and 3-3.

The required SSD for the site access drive west for the westbound direction at the posted speed limit of 35 miles per hour is 223 feet and for the 85th percentile speed of 45 miles per hour is 339 feet. The required SSD for the site access drive east for the eastbound direction at the posted speed limit is 267 feet and for the 85th percentile speed is 395 feet. The SSD available was measured to be in excess of 339 feet for the site access drive west for the westbound direction and in excess of 395 feet for the site access drive east for the eastbound direction. Table 10 provides a more detailed summary of the results of this analysis.

Based on a review by the Westchester County Department of Public Works, both driveways meet the standards to provide access.

Findings

A Traffic Report is required by the Village/Town of Harrison to evaluate the potential traffic impacts of this proposed Church on adjacent roadways and nearby

Table 10
INTERSECTION AND STOPPING SIGHT DISTANCE ANALYSIS
Trinity Presbyterian Church
526-530 Anderson Hill Road
Purchase, New York

		INTERSEC	TION SIGHT	F DISTANCE	INTERSECTION SIGHT DISTANCE (ISD) ANALYSIS		
		Left Turn From Stop	From Stop		Right Turn	Right Turn From Stop	
			Distance De	Distance Desirable (Feet)		Distance Desirable (Feet)	sirable (Feet)
			Posted	Measured		Posted	Measured
	Distance Ava	Distance Available (Feet)	Speed	Speed	Distance Available(Feet)	Speed	Speed
INTERSECTION	Left	Right	35 MPH	45 MPH	Left	35 MPH	45 MPH
Anderson Hill							
Road at Site	1003	077	000	000	Ç	0	0
Access Drive	+000	400	390	200	+00c	335	430
West							
Anderson Hill							
Road at Site	900	1003	000	Ç.		0	(
Access Drive	400	+006	390	200	460	335	430
East							

Notes:

- Intersection Sight Distance (ISD) desirable are from the Minimum Acceptable Sight Distances Table provided on the Intersection Sight Distance Requirement Form prepared by Westchester County Department of Public Works (WCDPW).
 - Available intersection sight distance provided in enclosed profile by Divney Tung Schwalbe.
 - The posted speed limit is 35 miles per hour on Anderson Hill Road.
- The operational speed (85th percentile speed) was measured to be 45 miles per hour in the eastbound direction and 44 miles per hour in the westbound direction from an ATR conducted by Frederick P. Clark Associates, Inc. from Sunday, March 30 to Monday, April 7, 2014.

Findings:

Anderson Hill Road at Site Access Drive West

ISD meets the standards for the posted speed limit and for the 85th percentile speed to the left. To the right it meets an ISD for 41.4 miles per hour, which is acceptable to WCDPW.

Anderson Hill Road at Site Access Drive East

ISD meets the standards for the posted speed limit and for the 85th percentile speed to the right. To the left it meets an ISD for 41.4 miles per hour, which is acceptable to WCDPW.

	CTOPPI	STOPPING SIGHT DISTANCE (SSD) ANAI VSIS	ANCE (CCD) AN	DIDA IV		
	21011	TIGIO ITIDIO ON	VIA (DEE) JOHN	AL LOIS		
				Distance Rec	Distance Required (Feet)	
	Distance Ava	vailable (Feet)	Posted Speed	Speed	Measured Speed	d Speed
			35 MPH	PH	45 MPH	(PH
INTERSECTION	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound
Anderson Hill Road at Site	1000		CCC		Č.	
Access Drive West	3397	1	233	ŀ	539	ŀ
Anderson Hill Road at Site		305		1,0		100
Access Drive East	!	393 +	ı	/07	;	395

Notes:

- Geometric Design of Highways and Streets, published in 2011 by the American Association of State Highway and Fransportation Officials (AASHTO), Equation 3-2 and 3-3 to calculate the required ISD.
 - Available stopping sight distance (SSD) provided by Divney Tung Schwalbe.
 - Calculations of SSD are provided in the enclosed Figure A-1.
- The posted speed limit is 35 miles per hour on Anderson Hill Road.
- The operational speed (85th percentile speed) was measured to be 45 miles per hour in the eastbound direction and 44 miles per hour in the westbound direction from an ATR conducted by Frederick P. Clark Associates, Inc. from Sunday, March 30 to Monday, April 7, 2014.

Table 10 cont'd

Findings:

Typically SSD standards are based on the posted speed limit and not the 85th percentile speed. Upon the request of WCDPW, the required SSD is provided for both.

Anderson Hill Road at Site Access Drive West

This driveway location meets or is within the acceptable desirable ISD and SSD, as per WCDPW.

Anderson Hill Road at Site Access Drive East

This driveway location meets or is within the acceptable desirable ISD and SSD, as per WCDPW.

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intersections. The site is located at 526-530 Anderson Hill Road in Purchase. The Church is expected to be completed and fully occupied by 2016.

This Traffic Study addresses traffic conditions for the 2014 existing, 2016 no-build and build peak hours for the weekday morning and weekday afternoon peak periods of the adjacent street system and Sunday peak hour of the Church. The existing traffic volumes were seasonally adjusted using New York State Department of Transportation (NYSDOT) data from a permanent location on Anderson Hill Road between Westchester Avenue and Purchase Street (NYS Route 120). The traffic analysis includes all other planned and approved developments in the vicinity of the Study Area.

The Proposed Action will consist of a 200-seat Church with office space and meeting space. Site access will be two full-movement access drives to Anderson Hill Road both west and east of Harrows Lane.

Origin-Destination and activity surveys were conducted by both the Applicant and representatives of Frederick P. Clark Associates at the current location where services are held. It includes the zip code of the driver, vehicle occupancy and number of members that remain for the class after the Sunday service. Also, the development program was provided by the Applicant. Many of the weekday activities occur outside the peak hours of the adjacent roadway system, when traffic is lower. It is anticipated that the proposed development will generate 6, 7, 72 and 45 vehicle trip ends during the weekday morning, weekday afternoon, Sunday service arrivals and Sunday class departure peak hours, respectively.

This site traffic generation was compared to Institute of Transportation Engineers (ITE) trip generation rates, which estimates that this site would generate 2, 2, 61 and 38 vehicle trip ends during the weekday morning, weekday afternoon, Sunday service arrivals and Sunday class departure peak hours, respectively. This is lower than the site traffic

generation calculated using the development program; so, the analysis should be considered conservative.

This traffic added to area roads will result in an insignificant traffic impact to the overall operation of the nearby signalized intersections and the unsignalized intersection of Harrows Lane. Based on results of the analysis, the two existing access drives will operate at acceptable Levels of Service.

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APPENDIX

CAPACITY ANALYSIS PROCEDURES

CAPACITY ANALYSIS PROCEDURES

Urban Street Segments – Signalized, Two-Way STOP-Controlled Intersections and All-Way STOP-Controlled Intersections

Procedures have been established by the Transportation Research Board through which roadway segments, facilities and intersections can be tested to determine their ability to accommodate traffic volumes. These procedures are described in this section.

Urban Street Segments and Facilities – Urban streets are separated into individual elements that are physically adjacent and operate as a single entity in serving travelers. A point represents the boundary between links and is represented by an intersection or ramp terminal. A link represents a length of roadway between two points. A link and its boundary points are referred to as a segment. Multiple contiguous segments can be combined into a single facility.

Urban Street Segments provide an integrated multimodal methodology for evaluating the quality of service provided to road users traveling along an urban street segment. It is applicable to an urban or suburban street segment. The segment can be part of an arterial or collector street with one-way or two-way vehicular traffic flow. The intersections on the segments can be signalized or unsignalized. This chapter describes a methodology for evaluating an intersection that is part of a coordinated signal System.

Performance Measures – A street segment's performance is described by the use of one or more quantitative measures that characterize some aspect of the service provided to a specific road-user group. It includes automobile travel speed, automobile stop rate, automobile traveler perception score, pedestrian travel speed, pedestrian space, pedestrian perception score, bicycle travel speed, bicycle perception score, transit vehicle travel speed, transit wait-ride score, and transit passenger perception score. LOS is also considered a performance measure. It is computed for the automobile, pedestrian, bicycle and transit travel modes.

Travel Modes – There are four methodologies for evaluating urban street performance from the perspective of motorists, pedestrians, bicyclists, or transit passengers. They are referred to as the automobile methodology, pedestrian methodology, bicycle methodology and transit methodology.

Lane Groups and Movement Groups – They are used in this chapter when the boundary intersection is signalized. A separate lane group is established to (a) each lane (or combination of adjacent lanes) that exclusively serves one movement and (b) each lane shared by two or more movements. The concept of movement groups is also established to facilitate data entry. A separate movement group is established for (a) each turn movement

with one or more exclusive turn lanes and (b) the through movement (inclusive of any turn movements that share a lane).

LOS Criteria – LOS criteria for the automobile mode are different from those for the non-automobile modes. The automobile-mode criteria are based on performance measures that are field measurable and perceivable by travelers. The criteria for the pedestrian and bicycle modes are based on scores reported by travelers indicating their perception of service quality. The criteria for the transit mode are based on measured changes in transit patronage due to changes in service quality.

Automobile Mode – Two performance measures are used to characterize vehicular LOS for a given direction of travel along an urban street segment. One measure is travel speed for through vehicles. The second measure is volume-to-capacity ratio for the through movement at the downstream boundary intersection. The following characterize each service level.

Level of Service A — It describes primarily free-flow operation. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control delay at the boundary intersection is minimal. The travel speed exceeds 85% of the base free-flow speed, and the volume-to-capacity ratio is no greater than 1.0.

Level of Service B – It describes reasonably unimpeded operation. The ability to maneuver within the traffic stream is only slightly restricted, and control delay at the boundary intersection is not significant. The travel speed is between 67% and 85% of the base free-flow speed, and the volume-to-capacity ratio is no greater than 1.0.

Level of Service C – It describes stable operation. The ability to maneuver and change lanes at mid-segment locations may be more restricted than at LOS B. Longer queues at the boundary intersection may contribute to lower travel speeds. The travel speed is between 50% and 67% of the base free-flow speed, and the volume-to-capacity ratio is no greater than 1.0.

Level of Service D – It indicates a less stable condition in which a small increase in flow may cause a substantial increase in delay and decrease in travel speed. This operation may be due to adverse signal progression, high volume, or inappropriate signal timing at the boundary intersection. The travel speed is between 40% and 50% of the base free-flow speed, and the volume-to-capacity ratio is no greater than 1.0.

Level of Service E – It is characterized by unstable operation and significant delay. Such operations may be due to some combination of adverse progression, high volume, and inappropriate signal timing at the boundary intersection. The travel speed is between 30% and 40% of the base free-flow speed, and the volume-to-capacity ratio is no greater than 1.0.

Level of Service F – It is characterized by flow at extremely low speed. Congestion is likely occurring at the boundary intersection, as indicated by high delay and extensive queuing. The travel speed is 30% or less of the base free-flow speed or the volume-to-capacity ratio is greater than 1.0.

The LOS thresholds established for automobile mode at a signalized intersection

TRAVEL SPEED AS A	LOS BY VOLU	ME-TO-CAPACITY
PERCENTAGE OF BASE FREE-	R	ATIO
FLOW SPEED (%)	<u>≤</u> 1.0	>1.0
85	A	F
>67-85	В	F
>50-67	С	F
>40-50	D	F
>30-40	Е	F
≤30	F	F

Note: Volume-to-capacity ratio of through movement at downstream boundary intersections.

Nonautomobile Modes – The methodology for evaluating each mode provides a procedure for mathematically combining these factors into a score. This score is then used to determine the LOS that is provided for a given direction of travel along a segment. The LOS for pedestrian mode is determined by consideration of both the LOS score and the average pedestrian space on the sidewalk.

LOS Criteria: Pedestrian Mode

	LC	OS BY AVER	AGE PEDES	TRIAN SPA	CE (SQUAR	Е
PEDESTRIAN			FEET/PEDI	ESTRIAN)		
LOS SCORE	>60	>40-60	>24-40	>15-24	>8.0-15	<u>≤</u> 8.0
≤ 2.00	A	В	С	D	Е	F
>2.00-2.75	В	В	С	D	E	F
>2.75-3.50	С	С	C	D	E	F
>3.5-4.25	D	D	D	D	E	F
>4.25-5.00	E	E	E	E	E	F
>5.00	F	F	F	F	F	F

LOS Criteria: Bicycle and Transit Modes

LOS	LOS SCORE
A	< 2.00
В	>2.00-2.75
С	>2.75-3.50
D	>3.50-4.25
Е	>4.25-5.00
F	>5.00

Intersections – Four methods of analysis are needed to evaluate different kinds of intersections. These methods are based on procedures found in the Fifth Edition of the Highway Capacity Manual 2010 and are described below.

Signalized Intersections

This chapter's methodology applies to three-leg and four-leg intersections of two streets or highways where the signalization operates in isolation from nearby intersections.

Performance Measure – An intersection's performance is described by the use of one or more quantitative measures that characterize some aspect of the service provided to a specific road user group. Performance measures include automobile volume-to-capacity ratio, automobile delay, queue storage ratio, pedestrian delay, pedestrian circulation area, pedestrian perception score, bicycle delay, and bicycle perception score. LOS is considered a performance measure. It is computed for the automobile, pedestrian, and bicycle travel modes.

Travel Modes – There are three methodologies that can be used to evaluate intersection performance from the perspective of motorists, pedestrians, and bicyclists. They are referred to as the automobile methodology, the pedestrian methodology, and the bicycle methodology.

Lane Groups and Movement Groups – A separate lane group is established to (a) each lane (or combination of adjacent lanes) that exclusively serves one movement and (b) each lane shared by two or more movements. The concept of movement groups is also established to facilitate data entry. A separate movement group is established for (a) each turn movement with one or more exclusive turn lanes and (b) the through movement (inclusive of any turn movements that share a lane).

LOS Criteria – LOS criteria for the automobile mode are different from those for the non-automobile modes. The automobile-mode criteria are based on performance measures that are field measurable and perceivable by travelers. The criteria for the non-automobile

modes are based on scores reported by travelers indicating their perception of service quality.

Automobile Mode – LOS for Automobile Mode can be characterized for the entire intersection, each intersection approach, and each lane group. Control delay alone is used to characterize LOS for entire intersection or an approach. Control delay and volume-to-capacity ratio are used to characterize LOS for a lane group. Delay quantifies the increase in travel time due to traffic signal control. It is also a surrogate measure of driver discomfort and fuel consumption. The volume-to-capacity ratio quantifies the degree to which a phase's capacity is utilized by a lane group. The following describes each LOS.

Level of Service A – It describes operations with a control delay of 10.0 seconds per vehicle or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.

Level of Service B – It describes operations with control delay between 10 to 20 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicle stop than with LOS A.

Level of Service C – It describes operations with control delay between 20 to 35 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate. Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.

Level of Service D – It describes operations with control delay between 35 to 55 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.

Level of Service E – It describes operations with control delay between 55 to 80 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.

Level of Service F – It describes operations with control delay between 55 to 80 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.

The LOS thresholds established for automobile mode at a signalized intersection

CONTROL DELAY	LOS BY VC	LUME-TO-
(SECONDS PER	CAPACIT	Y RATIO
VEHICLE)	<u>≤</u> 1.0	>1.0
≤ 10	A	F
>10 to 20	В	F
>20 to 35	С	F
>35 to 55	D	F
>55 to 80	Е	F
>80	F	F

Note: For approach-based and intersection-wide assessments, LOS is defined by control delay.

Nonautomobile Modes – The following Exhibit lists the range of scores associated with each LOS for the pedestrian and bicycle travel mode. The association between score value and LOS is based on traveler perception research. Travelers were asked to rate the quality of service associated with a specific trip through a signalized intersection. A letter A was used to present the best quality of service, and the letter F was used to represent the worst quality of service.

The LOS thresholds for pedestrian and bicycle travel mode at a signalized intersection

LOS	LOS SCORE
A	< 2.00
В	>2.00-2.75
C	>2.75-3.50
D	>3.5-4.25
Е	>4.25-5.00
F	>5.00

Two-Way STOP-Controlled Intersections (TWSC)

One typical configuration is a four-leg intersection, where the major street is uncontrolled, while the minor street is controlled by STOP signs. The other typical configuration is a three-leg intersection, where the single minor-street approach is controlled by a STOP sign.

Theoretical Basic – Gap-acceptance models begin with the recognition that TWSC Intersections give no positive indication or control to the driver on the minor street as to when it is appropriate to leave the stop line and enter the major street. The driver must determine when a gap on the major street is large enough to permit entry and when to enter, on the basis of the relative priority of the competing movements. This decision-making process has been formalized analytically into what is commonly known as gap-acceptance theory. Gap-acceptance theory includes three basic elements: the size and distribution (availability) of gaps on the major street, the usefulness of these gaps to the minor-street drivers, and the relative priority of the various movements at the intersection.

Critical Headway and Follow-Up Headway – The critical headway is defined as the minimum interval in the major street traffic stream that allows intersection entry for one minor-street vehicle. Thus, the driver's critical headway is the minimum headway that would be acceptable. Critical headway can be estimated on the basis of observations of the largest rejected and smallest accepted headway for a given intersection. The *follow-up headway* is defined as the time between the departure of one vehicle from the minor street and the departure of the next vehicle using the same major-street headway, under a condition of continuous queuing on the minor street.

Base Critical Headways for TWSC Intersections

VEHICLE			
MOVEMENT	BASE CRITICAL HEADWAY		
	Two Lanes	Four Lanes	Six Lanes
Left turn from major	4.1	4.1	5.3
U-turn from	N/A	6.4 (wide)	5.6
major		6.9 (narrow)	
Right turn from	6.2	6.9	7.1
minor			
Through traffic	1-stage:6.5	1-stage:6.5	1-stage:6.5*
On major	2-stage, stage I: 5.5	2-stage, stage I: 5.5	2-stage, stage I: 5.5*
	2-stage, Stage II: 5.5	2-stage, Stage II: 5.5	2-stage, Stage II: 5.5*
Left turn from	1-stage:7.1	1-stage:7.5	1-stage:6.4
minor	2-stage, stage I: 6.1	2-stage, stage I: 6.5	2-stage, stage I: 7.3
	2-stage, Stage II: 6.1	2-stage, Stage II: 6.5	2-stage, Stage II: 6.7

^{*}Use caution; values estimated

Base Follow-up Headways for TWSC Intersections

	BASE FOLLOW-UP HEADWAY		
VEHICLE MOVEMENT	Two Lanes	Four Lanes	Six Lanes
Left turn from major	2.2	2.2	3.1
U-turn from major	N/A	2.5 (wide)	2.3
		3.1 (narrow)	
Right turn from minor	3.3	3.3	3.9
Through traffic on major	4.0	4.0	4.0
Left turn from minor	3.5	3.5	3.8

Level Of Service Criteria – LOS for a TWSC intersection is determined by the computed or measured control delay. For motor vehicles, LOS is determined for each minor-street movement (or shared movement) as well as major-street left turn. LOS is not defined for the intersection as a whole or for major-street approaches. LOS F is assigned to the movement if the volume-to-capacity ratio for the movement exceeds 1.0, regardless of the control delay.

Automobile Mode – The methodology applies to TWSC intersections with up to three lanes (either shared or exclusive) on the major-street approaches and up to three lanes on the minor-street approaches (with no more than one exclusive lane for each movement on the minor-street approach). Effects from other intersections are accounted for only in situations in which a TWSC intersection is located on an urban street segment between coordinated signalized intersections. In this situation, the intersection can be analyzed by using the procedures in urban street segment.

Level-of Service Criteria for Automobile Mode

CONTROL DELAY (SECONDS PER VEHICLE)		OLUME-TO- TY RATIO >1.0
0- 10 >10 to 15 >15 to 25 >25 to 35 >35 to 50 >50	A B C D E F	F F F F F

Note: The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major-street approaches or for the intersection as a whole.

Pedestrian Mode – Pedestrian methodologies apply to TWSC intersections and midblock crossing where pedestrians cross up to four through lanes on the major street. The analysis procedure does not apply to undivided streets with more than four lanes, although it can accommodate up to four lanes in each direction separated by a median. The methodology do not account for interaction effects of upstream signalized intersections.

Level-of Service Criteria for Pedestrian Mode

	CONTROL	
	DELAY	
	(SECONDS	
	PER	
LOS	VEHICLE)	COMMENTS
Α	0-5	Usually no conflicting traffic
В	5-10	Occasionally some delay due to conflicting traffic
C	10-20	Delay noticeable to pedestrian, but not inconveniencing
D	20-30	Delay noticeable and irritating, increased likelihood of risk taking
Е	30-45	Delay approach tolerance level, risk-taking behavior likely
F	>45	Delay exceeds tolerance level, high likelihood of pedestrian risk
		taking

Note: Control delay may be interpreted as s/pedestrian group if groups of pedestrians were counted as opposed to individual pedestrians.

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PHOTOGRAPHS



ANDERSON HILL ROAD AT SITE FRONTAGE, LOOKING WEST



ANDERSON HILL ROAD AT SITE FRONTAGE, LOOKING EAST



ANDERSON HILL ROAD AT HARROWS LANE, LOOKING WEST



ANDERSON HILL ROAD AT HARROWS LANE, LOOKING EAST



HARROWS LANE AT ANDERSON HILL ROAD, LOOKING NORTH



PURCHASE STREET (N.Y.S. ROUTE 120) AT ANDERSON HILL ROAD, LOOKING NORTH



PURCHASE STREET (N.Y.S. ROUTE 120) AT ANDERSON HILL ROAD, LOOKING SOUTH



ANDERSON HILL ROAD AT PURCHASE STREET (N.Y.S. ROUTE 120), LOOKING WEST



ANDERSON HILL ROAD AT PURCHASE STREET (N.Y.S. ROUTE 120), LOOKING EAST



ANDERSON HILL ROAD AT LINCOLN AVENUE, LOOKING WEST



ANDERSON HILL ROAD AT LINCOLN AVENUE, LOOKING EAST



LINCOLN AVENUE AT ANDERSON HILL ROAD, LOOKING SOUTH



ANDERSON HILL ROAD AT SUNY PURCHASE/ PEPSICO ACCESS DRIVES, LOOKING WEST



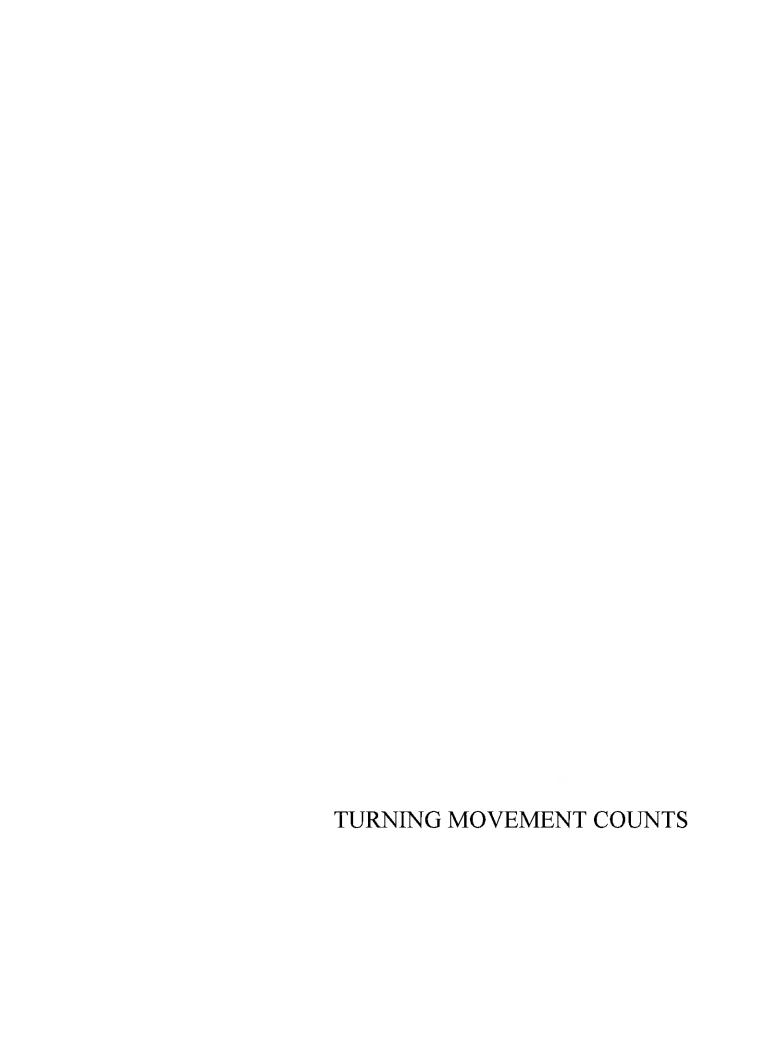
ANDERSON HILL ROAD AT SUNY PURCHASE/ PEPSICO ACCESS DRIVES, LOOKING EAST



SUNY PURCHASE ACCESS DRIVE AT ANDERSON HILL ROAD, LOOKING NORTH



PEPSICO ACCESS DRIVE AT ANDERSON HILL ROAD, LOOKING SOUTH



TRINITY PRESBYTERIAN CHURCH, 526-530 ANDERSON HILL ROAD, PURCHASE, NY - (#823.000) FIELD DATA SUMMARY - Purchase Street (NYS Route 120) at Arderson Hill Road

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TRINITY PRESBYTERIAN CHURCH, 526-530 ANDERSON HILL ROAD, PURCHASE, NY - (#823.000) FIELD DATA SUMMARY - Purchase Street (NYS Route 120) at Anderson Hill Road

Trucks Only

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TRINITY PRESBYTERIAN CHURCH, 526-530 ANDERSON HILL ROAD, PURCHASE, NY - (#823.000) FIELD DATA SUMMARY - Purchase Street (NYS Route 120) at Anderson Hill Road

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TRINITY PRESBYTERIAN CHURCH, 526-530 ANDERSON HILL ROAD, PURCHASE, NY - (#823.000) FIELD DATA SUMMARY - Anderson Hill Road at Harrows Lane

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7:45 AM 8:00 AM	1	26	0	86	0	37	0	37	0	0					2	7	137	410
	,	103	0	105	0	15	ū	15	0	0		0 0		٠	3	m	159	500
		9	0	19	0	75	0	42	0	0				0	7	3	108	523
	1	98	0	66	0	98	0	96	0	0		0	0	0	2	F	157	561
845 AM 900 AM	3	90	0	63	0	95	7.7	53	0	0)				3	6	149	573
AM Peak Hour Vol.	7	351	0	358	0	661	3	202	0	0	0			0	10	13	573	
Peak Hour Factor				0.85				06.0				#DIV/0!				0.65	0.90	
	1	19	0	89	0	78	0	78	0	0	 	0 0	0	0	2	2	148	
	3	76	0	79	0	82	0	82	0	0		0			0	0	191	
		64	0	64	0	81	1	82	0	0		0 0		0	2	3	149	
	4	65	0	69	0	76	0	1.6	0	0		0	-	0	0		191	625
	Q.	63	С	69	0	103	1	104	0	0	Ð	C	0	0	0	a	173	650
	D	54	0	54	0	87	0	.87	Û	9		0 0	0	0	9	0	171	630
	0	20	3	10	O	93	0	93	Ð	Ů.			Ģ	0	c	Ċ	163	641
5 45 PM 6.00 PM	3	84	įψ	87	٥	8	0	81	G	0	0	0		0			169	91-9
PM Peak Hour Vol.	6	271	0	280	0	364	1	398	0	0			0	0	1	1	949	
Peak Hour Factor								0.88				#DIV/0!				0.25	0.93	
Sunday	Eastbo	Eastbound - Anderson Hill Road	erson Hill	Road	West	Westbound - Anderson H	Ξ	Road		Northbound	ponno			Southbound -	- Harrows Lane			Last 4
-	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Total	Quarters
_	5.	49	0	¥	0	FE	2.	77,	0	0		0 0	0		4	4	82	
	C4	37	C	39	0	23	1	14	0	0	~	5	0	0	-		64	
		57	0	99	O	36	0	92	0	0	~		0	0	3	5	68	
	2	ĆL.	0	74	Ü	28	1	56	0	С	-	0		0	T	-	ם	339
	4	62	0	99	0	33	0	33	0	0	,	0 0	0	0	2	2	101	358
_	-	49	0	65	0	52	0	52	0	0		0 0		0	-	2	119	413
	0	42	0	42	0	40	2	42	0	0		0 0	0	0	-	-	85	409
	-	41	0	42	0	33.	0	33	0	0		0 0	1	0	0	-	92	381
	4	44		48	0	70	F	71	0	0		0 0	0		3	3	122	402
	3	9		43	0	38	0	38	0	0	-	0 0		0	2	2	83	366
	_	63	0	64	0	38	0	38	0	0		0 0	2	0	7	4	901	387
11:45 AM 12:00 PM	2	09	0	62	0	65	ō	99	0	0	1	0 0	1	0	0	7	128	439
		48	0.5	05	7			(0)	0.0	Q		0	100	0		PH.	1381	11411
		32.	DV TO	H.	0	109	0	68	0	0		0	0.0	0//	W. Carrier	00	142	571
TOTAL IN THE PARTY		30	D.C.	103	0	-54	23	30	0	0		0	0 0	0	# # T		(4)	X
1235PM 100PM	Ip.	E)	0	100 mm	0	The	0	160	10	0		11		0		179	1333	510
SUN Arrivals Peak																		
Hour Vol.	12	215	0	227	0	66	4	103	0	0		0 0	0	0	6	6	339	
Peak Hour Factor				0.77				0.89				#DIV/0!				0.56	0.81	
SUN Departures Peak Hour Vol.	9	211	0	217	0	324	(*)	327	-	c			,	•		V	640	
Peak Hour Factor				0.88				0.79				10/AIG#			2	230	000	
				2000				27.0				"DIAIG"				0.03	0.07	

TRINITY PRESBYTERIAN CHURCH, 526-530 ANDERSON HILL ROAD, PURCHASE, NY - (#823.000) FIELD DATA SUMMARY - Anderson Hill Road at Lincoln Avenue

All Vehicles

Tuesday	lav	Eastbo	Eastbound - Anderson Hill Road	erson Hill	Road	Wes	thound - A	Westhound - Anderson Hill	III Road	2	Northbound .	- I incoln Avenue	9		Courthhound	panon			I and 4
1-Apr-14	-14	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Total	Onarters
7:00 AM	7:15 AM	0	38	5		8				3	0	-	14	ļ		0		84	
7:15 AM	7:30 AM	0	46	8		8		17 (0 25		0			0	0	0	0	114	
7:30 AM	7:45 AM	0	99	9		01				3	0			0	0	0	0	142	
7:45 AM	8:00 AM	0	78	9	84			32 (0	35		0	0	0	0	691	509
8 00 AM	8 15 AM	6	65	9		15				-	0			0	Ö	0	0	180	614
8 15 AM	8 30 AM	0	22	9		91		36		7	0			0	0	o	0	180	680
8 30 AM	8 45 AM	0	16	5		91					0	41		0	0	d	0	206	74‡
8 45 AM	9 00 AM	C	87	10		21		13] (150	Û			0	0	0	ō	204	61.1
AM Peak Hour Vol.	our Vol.	0	343	27	370	64		191		13	0		178	0	0	0	0	977	
Peak Hour Factor	actor				0.94								16.0				#DIV/0!	0.95	
4:00 PM	4:15 PM	0	52	5				73		4	0			0	0	0	.	207	
4:15 PM	4:30 PM	0	62	11	73				0 131	4	0			0	0	0	0	247	
4:30 PM	4:45 PM	0	70	10	80	74		88		14	0			0	0	0	0	288	
4:45 PM	5:00 PM	0	51	6						8	0			0	0	0	0	224	996
5 00 PM	5 15 PM	0	19	6						5	0			0	0	0	0	243	1.002
S 15 PM	5 30 PM	0	89	5	73		1			8	0			0	Э	0	0	366	1.021
5 30 PM	5 45 PM	0	99	=	77		٠,		0 179	T	0	40		ŋ	0	0	o	247	080
5.45 PM	6 00 PM	9	73	_				64	0 105	7	0			0	0	0	6	233	626
PM Peak Hour Vol	ur Vol.	0	268	26		186				21	0	119		0	0	0	0	979	
Peak Hour Factor	actor				_				0.84				080				#DIV/0!	0.92	
Sunday	lay	Eastb	Eastbound - Anderson Hill Road	erson Hill	Road	Wes	tbound - 4		ill Road	Z	q	- Lincoln Avenue	1e		Southbound	punor			Last 4
6-Apr-14	r-14	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Total	Quarters
9 00 AM	9 13 AM	0	40	\$	45	16			3.7		0			0				79	
9 15 AM	930 AM	0	38	I	39	5				3.	0			0	0	0	c	96	
9 30 AM	9.15 AM	0	21	3	54			23 (3				ŋ	0	0	0	1.8	
9 15 AM	10 00 AM	0	64	۲.	.9		П			\$				0	0	0	O	136	447
10:00 AM	10:15 AM	0	55	-	95					9	0			0	0	0	0	128	478
10:15 AM	10:30 AM	0	20	4	54			37 (2	0			0	0	0	0	152	534
10:30 AM	10:45 AM	0	40	-	41					3	0			0	0	0	0	136	552
10:45 AM	11:00 AM	0	36	3	39					0	0	28	28.	0	0	0	0	=======================================	527
11:00 AM	11:15 AM	0	38	2				54 (5	0			0	0	0	0	142	541
11:15 AM	11:30 AM	0	28	2						2	0			0	0	0	0	95	484
11:30 AM	11:45 AM	0	48	0						=	0	21	22	0	0	0	0	106	454
11:45 AM	12:00 PM	0	54	₹						3	0			0	0	0	0	175	518
140 PM	12 1 T. W. I	0.0	Str.	9	15			104			9	(13	11	0	0	0	6	西	1965
12-15-PM	13.30.2M	(0)	30	97	45	8		16	0 102	N. Comments	0	2012	12	0	0	3	0	168	199
12 N 181	12:45, PMT	4	70	9	14.	27		50,00	0.00		0	#11	51	0	0	0	0	110	710
1245/001	1:00 884	(0)	165	9	190	35		1	0 113	3	0	1	100	0	0		10	101	717
SUN Arrivals Peak	s Peak																		
Hour Vol.		0	193	12		44		78	0 122	12	0	108	120	0	0	0	0	447	
Peak Hour Factor	actor				9.76				0.90				0.75				#DIV/0!	0.82	
Now Vepartures Feak	ures Feak	•	179	22	201	143		414	760	G			F	<	c	•	c		
Pask Mour Factor	artor					2			30.0			70	1/	0	3	9	0	757	
T CAR TOWN T	nero.				2.5				0.73				0.85				#DIA/0;	0.84	

TRINITY PRESBYTERIAN CHURCH, 526-530 ANDERSON HILL ROAD, PURCHASE, NY - (#823.000) FIELD DATA SUMMARY - Anderson Hill Road at Pepsico Access Drive/ SUNY Purchase Access Drive

All Vehicles

All venicles	Paret	A President	E. d. J. J. J. S.	Dood	W	1 4 1												
1-Apr-14	Left	Thru	Right	Total	Left	Thru Rie		Total	Left	Thru Right	Right	Total	Southbo	und - SUNY	Southbound - SUNY Furchase Access Drive	SS Drive	Total	Last 4
7:00 AM 7:15 AM	į	30	ļ.	48	0	25	3		-		0	1	2				83	Ciral IEI S
		34	35		0	25	4	29	2	0	0	2	1	0		8	108	
	35	59	3	1.6	_	61	4	24]	4	0	0	4	1	0	6	10	135	
	55	55			1	29	4	34	1	0	0	-	1	0		13	162	488
		61			0	25	01	3.5	۲,	0	-	m	2	0		15	178	583
		45				33	14	-81	0	0	0	0	00	٥	8	26	208	683
	79	45			0	30	60	38	2	T	Ū	3	7	0		36	204	752
8 45 AM 9 00 AM	73	7.				32	01	13	I	0	2.	F	9			36	215	805
AM Peak Hour Vol.	299	205	15	519	2	120	42	164	S	1	3	6	23	I	68	113	805	
Fa				0		Section 1		0.85				0.75				0.78	0.94	
	51	29	0	80	0	55	7	79	2	0	0	2	11	0		65	209	
		33		86	0	46	6	55	0	0	0	0	111	0		85	238	
	57	35.		93	0	39	10	49	0	0	0	0	6	0	93	102	244	
		30	0	81	0	43	13	99	0	0	0	0	7			84	221	912
		32		82	0	65	6	1.4	0	0	O	0	61	0		65	121	b1 6
5 15 PM 5 30 PM		40	0	080	0	53	1	57	†	0	-	\$	15	0		16	243	919
	96	34		93	0	85	1	65	5	Ü	1	9	12	C		94	240	915
\$ 45 PM 6 00 PM		42	0	117	0	45	12	5.5	3	0	2	5	[]	0		19	246	016
PM Peak Hour Vol.	220	148		372	0	221	32	253	12	0	4	16	57	0	2	299	940	
Peak Hour Factor				0.79				0.85				19.0				0.82	96.0	
Sunday	Easth	ound - And	Eastbound - Anderson Hill Road	Road	Wes	Westbound - Anderson	rson Hill Road	toad	North	Northbound - Peps	- Pepsico Access Drive	rive	Southbound -	und - SUNY	- SUNY Purchase Access Drive	ss Drive		Last 4
pr-14	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Total	Quarters
_	Ţ.	23		7	0	11	ν.	91	0	9	O	0	3	0		25	103	
1		13		59	0	14	٧.	61	0	0	0	0	1	0		151	93	
9 30 AM 9 45 AM		21		78	0	13	7	61	Ö	c	0.	0	3	0		28	125	
	8	2	Ì	100	C	12.	17	29	0	C	0	0	5	O .		22	151	474
	80	20		100		10	10	21	0	0	1	-	4	0	52	30	152	521
	71	22	0	93	0	28	6	37	0	0	0	0	. 6	0		39	169	597
	46	12		59	0	25	6	34		_	0	2	8	0		50	145	219
_	45	25		72	0	15.	17	32	Ţ	-	0	2	11	0		41	147	613
	29	26		55		42	-	50	-	0	-	2	3	0		51	158	619
	20	24		444	0	23	5	28	0	0	0	0	1	7		38	110	560
	47	26		73		20	10	31	-	0	0	1	. 6	0		25	130	545
	98	34	0	06	0	33	12	45	0	1	0	I	8	0		55	161	589
Щ	7	200	B	205		T.	A	H.	0	0	0	5	18	0		3186	256	(89)
	7	76	0	09	7		17	141		0	0	The second	7	THE PERSON	100	83	185	762
	55	33	0	183	1	199	000	THE STREET	0	a	0	0	ALC: N	0	028	房	197	THE .
1245194 1 00 1941	101	310		×		100	×	47	4	***	d	*			190	11	THE	828
SUN Arrivals Peak																		
Hour Vol.	234	67	0	301	•	49	34	83	0	0	0	0	12	0	78	90	474	
Peak Hour Factor				0.75				0.72				#DIV/0;				0.80	0.78	
SUN Departures Peak	141	113	ľ	196	4	17	,	191	_	¥	6		Ę			,		
Peak Hour Factor		:		08.0		2	1	60.0	,	3	2	95.0	41	>	331	3/2	828	
I Can trout t actor				20.0				0.04	-			07.0				0.04	0.81	

TRINITY PRESBYTERIAN CHURCH, 526-530 ANDERSON HILL ROAD, PURCHASE, NY - (#823.000) FIELD DATA SUMMARY - Anderson Hill Road at Pepsico Access Drive/ SUNY Purchase Access Drive

Trucks Only

TIRCHS ONLY																		
Tuesday	East	Eastbound - Anderson Hill Road	derson Hill	Road	Westbi	Westbound - Anderson Hill	rson Hill Road	nd Totol	Norti	Northbound - Pen	- Pepsico Access Drive)rive	Southbo	und - SUNY	Southbound - SUNY Purchase Access Drive	ess Drive	Ē	Last 4
7:00 AM 7:15 AM		\perp		7	0		Ingini	F	O	O nJIII	C	10131	Len	Inin	Kignt	lota	1 Otal	Quarters
7:30			2	11	0	0	0	0	0	0			0					
			0		0	2	1	3	-	0			0				51	
	4		0	13	0	3	0	3	0	0			0					55
	A.	Ţ	16	14	0	33	1	4	О	0			7	J	4		23	67
	4 2	11	I	14	0	2	0	C 2	c	0			0	C				7
	.1	9	Ġ		0	5	o	5	0	1	0		-	0	3	1	t	2
8 45 AM 9 00 AM		4	0	4	L	4		9	0	0		0	0					9.
AM Peak Hour Vol.	14		2	49	1	14	2	17	0	I			2			12		***
Peak Hour Factor				0.88				0.71				0.25				ě	0.82	
4:00 PM 4:15 PM	1 1	0	0	1	0	00	0	∞	0	0			2	0				
	3			9	0	5	0	5	0	0			0		3			
4:30 PM 4:45 PM	4	0	0	4	0	3	1	4	0	0	0		0					
	4 I	1	0		0	2	0	2	0	0			0					41
	0.	3	9	3	0	-	3	-7	G	0							200	7
	7	0	0		0	2	0	2	G	0			0	e				31
		-	9		0	4	0	7.7	0	J	c			C	2		3 10	33
5 45 PM 6.00 PM	u! 0	2	ß	Ċ	О	+	0	+	O	0				0				33
PM Peak Hour Vol.	3	9	0	6	0	11	3	14	0	0	0		3	0	7	101	33	A I
Peak Hour Factor				0.75				0.88				#DIV/0!				0.50	-	
Sunday	East	Eastbound - Anderson Hill Road	derson Hill	Road	Westbu	Westbound - Anderson H	rson Hill Road		Nort	Northbound - Per	- Pensico Access Drive	hive	Southhound	VALIS	Purchase Access Drive	Pec Drive		I ast 4
Ė.	Left	Thru	Right	Total	Left	Thru		Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Total	Ouarters
			U		0	0	0	u	0	0			0					1
	O IP	O	ຍ	0	0	1	0	!	0	0			0				T 0	
	-	0		-	0	a	0	0	0	0		0	-	C	Ö			
	1		. 0		0	0	o	0	0	0	٥		0				2	7
	Λ 1	0		1	0	0	1	1	0	0		0	0		2		2	6
	M 0		0		0	0	0	0	0	0			0					10
					0	0	0	0	0	0	0		0				0	00
10:45 AM 11:00 AM	M 2	0	0	2	0	1	0	1	0	0	0		0	0				6
11:00 AM 11:15 AM	vf 2		0		0	0	0	0	0	0			0					5
	0		0	0	0	0	0	0	0	0	0		1					000
	~	0		1	0	0	0	0	0	0			0				0	6
	۵ 0	O	υ	c	0	2	1	3	0	0	0	0	0	0			4	10
	0		0	#	10	0	10	0	0	0	0	0	0	0	0)		0000	10.0
1235 PM 1230 PM	1	100	0.0	×	0.0	0	0	0	0	0		0	9		5	7		141
TENERN TASING	1	0.	0.	0	0		(0)	1	O	0	0	a	#	0	0	1	387	0
12 (S.P.N.) 1 00 P.N.	1	00	0	0	io .	11	[0:	1	0	10		TO TO	0	0	9	0	Towns Course	11
SUN Arrivals Peak			•					-		•								
100 V 01.	7		n		n	1	0	1	=	0	0	_	1	0	2			
CLIN Department Deal.				0.75				0.25	1			#DIV/0!				0.75	98.0	
Hour Vol.	4	4	0	œ	Û	2	•		_	•		-	_	•	·		5	
Peak Hour Factor				0			2	05 0	2	>		#DIV/01	7					
			-					Arcon.	J	france or other		TILLVIO.				0.38		

[ATI #14033]

TURNING MOVEMENT COUNTS

POUR St | \$ Anderson Kill Rd

Surveyors:

Day/Date:

Purchase St

Anderson Hill Rd

	-					Movement	Number						
Time	Class	1	2	3	4	5	6	7	8	ģ	1.0	11	12
7:15	Car	6	43	1	5	31	5						
	Truck	0	0	0	0	4	0						
	Sc Bus	2	2	0	1		.2						
7:30	Car	5	70	2	/	42	19						
	Truck	0	0	0	0	3	0						
	Sc Bus	0	4	2	0	4	1					*	
7:45	Саг	15	66	Ц	4	54	31						
	Truck	0	0	0	1	3	0						
	Sc Bus	0	2	0	0	1	0						
8:00	Car	19	61	5	6	65	28						
	Truck	3	1	2	3	5	2						
	Sc Bus	0	1.	0	0].	0						
8:15	Car	13	67	5	12	69	42				ļ		
	Truck	2	0	0	4	5	.3						
	Sc Bus	1	0	1	0	_3	2						
8:30	Car	24	81	3	6	32	19	56 m2-8		3			
	Truck	2	3	1	1	3	0						<u> </u>
	Sc Bus	0	2	2	1	1	0						
8:45	Car	17	82	3	6	62	42						
	Truck	O	0	0	0	4	5						
	Sc Bus	ଚ	4.	v	0	2	2						
9:00	Car	18	86	5	9	66	74						<u> </u>
	Truck	1	2	0	0	3	0			ļ	<u> </u>		
	Sc Bus	ð	0	6	0	1	0_						

Location: 井 l

Page 2 [ATI #14033]

LOGGI	r					Movement	Number						
Time	Class	1	2	3	4	5	6	7	8	9	10	11	12
4:15	Car	13	46	- 11	9	44	29						
	Truck	0	3	0	0	0	1						
1	Sc Bus	0	1	0	0	0	1						
4:30	Car	22	39	10	19	39	29						
	Truck	2	2	0	6	Ø	3						
1	Sc Bus	0	F	O	Ø	1	0						
4:45	Car	15	37	7	11	39	2/						
	Truck	0	8	0	0	2	2						
	Sc Bus	0	0	. 0	4	0	О						
5:00	Car	15	41	9	11	42	21	•					
	Truck	6	5	0	Ø	0	ъ	,					
	Sc Bus	0	ŀ	0	0	0	1						
5:15	Car	9	33	4	14	48	22						
]	Truck	1	3	1	0	0	1						
	Sc Bus	0	1	D	4	1	1						
5:30	Car	16	43	8	19	पा	24						
3.30	Truck	0	0	υ	1	0	3						
	Sc Bus	0	0	0	1	0	0						
FIAE		16	37	9	14	54	15						
5:45	Car	0	3	0	0	2	1						
	Truck Sc Bus	0	0	0	0	0	0						
		20	33	11	14	39	19						
6:00	Car	0	0	0	0	2	1		<u> </u>		 		
	Truck	0	0	0	0		0				-		
	Sc Bus	<u> </u>			U	0		L	<u> </u>		<u> </u>	I	

Anderson Hill Rd

Day/Date:_ Surveyors:

> Puzchase St 321

Anderson Hill Rd

						Movement			1/2	(A)	(A)	(24)	(12)
Time	Class	1	2	3	4	5	6	7	(9)	(9)	(10)	(11)	(12/
7:15	Car							2	9	2	3	12	5
	Truck							0	0	2	0		Ø
	Sc Bus							1	4	1	1	1	0
7.00				<u> </u>				4	P	P	3	10	5
7:30	Car							1	1	1	1	2	0
	Truck							1	1,	1	1	1	n
	Sc Bus							C.	28	8	12	10	3
7:45	Car						<u> </u>	4			1	20	0
	Truck							0		2	7	7	0
	Sc Bus							1	1	0	0	1	0
8:00	Саг							9	29	10	5	1/3	1
	Truck						l	0	4	6	1	3	3
	Sc Bus							1	2	0	0	1	0
8:15	Car							11	39	15	P	22	P
	Truck							1	1	4	3	3	4
	Sc Bus							1	3	1	0_	0	0
8:30								15	21	12	12	18	9
9:20	Cer .							0	6	0	4	2	21
	Truck							0	0	1	1)	0	0
	Sc Bus							20	49	17	K	25	6
8:45	Car				 			0	17	11	A	5	4
	Truck				 	-		0_	1	1	2	0	10
	Sc Bus								7	1			16
9:00	Car							16	50	7	18	12	1
	Truck							0	1	2	3	2	12
	Sc Bus							0	1 1	0	1	0	0

	_m J					Movement	Number						
Time	Class	1	2	3	4	5	6	(7)	(8)	(9)	(10)	(11)	(12)
4:15	Car							21	52	7	13	45	18
	Truck							1_	1_	0	5	4	1
	Sc Bus							N	0	0		1	0
4:30	Car			······································				12	53	12	3	49	17
	Truck						_	1)	2	2	1	5	1
	Sc Bus							2	0	1	1	1	2
4:45	Саг	· ·					• • • • • • • • • • • • • • • • • • • •	26	63	19	10	67	15
4:43								2	0	0	O	1	1
	Truck							0	0	0	0	n	0
	Sc Bus							16	54	9	9	70	13
5:00	Саг							3	2	D	0	1,	1
Ĥ	Truck							0	n	7	7	0	0
	Sc Bus				·				62	11	19		10
5:15	Car					_		34		77	, ,	57	16
	Truck							2	0_	0	0_	7	
	Sc Bus							1	0	1	0	0	0
5:30	Саг							39	46	13	19	61	25
	Truck							0	0	0	3	1	4
	Sc Bus		-					0	0	0	0	0	9
5:45	Саг							47	87	10	5	63	21
ı	Truck							3.	0_	4	1	£3	0
	Sc Bus							0	0	0	0	0	0
6:00	Car ·					,		36	87	16	9	49	17
1 3.55	Truck							D	1	0	0	1	0
	Sr. Bus					<u> </u>		0	n	0	0	0	0

AMERICAN TRAFFIC EXPERIMENTER, INC.	TURNING MOVEMENT COUNTS	11.1	_ 1
LOC: # 1- PT 1201	Purchase St) & Anderson	Nill	Rd.
	Day/Date: 6-Anr		

					1	Movement	Number						
Time	Class	1	2	3	4	5	6	7	8	9	10	11	12
9:15	Car	6	31	2	3	30	13						
	Truck	O		0	0	0	0						
	Sc Bus	C	C	0	0	્	0						
9:30	Car	6	31	0	4	39	9		-		_	_	_
	Truck	<i>(</i> 0	0	.00	D	0	• 1			`			
	Sc Bus	Ð	0	0	0	0	TO .						
9:45	Car	12	31		3	70	13						
	Truck	V	O	0	0	: 2	0						
	Sc Bus	V	0	0	0	0	0						
10:00	Car	7	30	5	10	28	6.						
	Truck	0	0	0	Ø	0	0				<u> </u>		
	Sc Bus	10	0	0	0	Ø	0						
10:15	Car	15	23	2	0	39	10				ļ. <u></u>		
	Truck	0	0	0	0	0	Ð						
	Sc Bus	Ð	0	0	0	0	80						
10:30	Car	9	30	-	3	28	[]						
	Truck	0	0	0	0	- 1	0			ļ		-	
	Sc Bus	0	0	0	Ð	0	0				<u> </u>		
10:45	Саг	11	36	5	2	25	12						
	Truck	0	0	0	Ð	0	0						
	Sc Bus	0	0	0	0	0	0						
11:00	Car	7	32	6	1	26	8						
	Truck	0	0	O	0	: 2	0						
	Sc Bus	0	0	0	10	0	0						

Time	Class			3	4	5	6	7	8	9	10	11	12		
11:15	Car	10	33	6	g	28	2								
Í	Truck	0	0	Ð	Q	0	:2								
	Sc Bus	Ð	0	0	0	Q	0								
11:30	Car	16	25	3	6	26	9								
	Truck	0	Ð	0	0	0	0				<u> </u>	<u> </u>			
	Sc Bus	O	70	0	0	V	0								
11:45	Car	13	29	5	7	35	19					<u> </u>			
	Truck	Ð	• (0	0	0	0	!							
	Sc Bus	0	Ø	0	€	0	O	· 							
12:00	Саг	15	32	8	6	38	16					<u> </u>			
	Truck	0	0	0	0	0	9			h	-		-		
	Sc Bus	0	0	v	0	0	• [
12:15	Саг	19	26	12	1	33	23	·				·			
	Truck	0	0	0	0	0	0								
	Sc Bus	0	0	0	0	0	0				<u> </u>		1		
12:30	Car	12	40	8	Y	26	17				ļ				
	Truck	0	0	0	0	:3	0				ļ				
	Sc Bus	0	0	0	0	0	0					ļ			
12:45	Car	10	28	4	1	30	17				1		ļ		
	Truck	. 1	0	0	0	0	1.				ļ				
	Sc Bus	V	0	C	0	0	0								
1:00	Саг	13	35	5	1	40	17		_		ļ				
	Truck	0	0	0	0	40	0				1	 			
	Sc Bus	0	0	0	0	0	0				1				

33]

Loc.: # 1 - PT 17	TURNING MOVEMENT COUNTS 10 (PUR Chage S4) & Auderson Mill Rd. Day/Date:_ 6-Apr	[ATI #140
\bigcap	Purchase ST	

321 JIJ FINANCIER ANDRESON MILL RO

						Movemen	Numbe						
Time	Class	1	2	3	4	5	6		(8)	(9)	(10)	(II)	(2)
9:15	Car						!	6	20	6	4	14	4
	Truck							1	0	1	0	1	0
	Sc Bus							0	0	0	Ū	0	Ō
9:30	Car							6	19	¥	4	11	6
	Truck							0	0	1	1	0	0
	Sc Bus							0	0	0	0	0	Ø
9:45	Саг							10	25	6	q	15	4
5170	Truck							0	0	0	0	6	0
	Sc Bus							0	0	n	0	0	
10:00								9	33	a	7	12	7
T0:00							<u> </u>	10	n	0	Ö	Ø	0
	Truck Sc Bus					-		10	0	0	0	0	n
10.15								5	19	11	6	15	13
10:15								0	1	0	0	1	$\overline{\mathcal{B}}$
	Truck							0	0	0	D	0	0
	Sc Bus							10	29	14	1	1/9	a
10:30						 		0	0	17	7	0	0
	Truck		-					0	0	0	0	0	0
	Sc Bus						1	4	34	11	10	24	14
10:45	Car							0	10	41		0	0
	Truck					<u> </u>		-	0	6	0_		
	Sc Bus					<u> </u>		8	25	10	9	19	3
11:00	Car	<u> </u>		 					0	0		13	0
	Truck							0	0	0	0	0	0
	Sc Bus							0	ν_{\perp}	V	10	1	U

1.1

						Movement							
Time	Class	1_	2	3	4	5	∕6 _/	(3)	(8/	©	40	01	12)
11:15	Car							15	28	6	6	44	74
	Truck							0_	1	2	0	2	0
	Sc Bus							0	0	0	O	0	0
11:30	Car							5	31	4	8	37	5
	Truck							0	1	0	0	0	0
	Sc Bus							0	0	0	0	0	0
11:45	Car	Ì						18	158	*	9	34	4
	Truck		,					0	0	0	0	1	0
	Sc Bus							1	0	0	0	0	0
12:00	Саг							24	50	19	9	33	8
	Truck							0	U	0	1	V	0
	Sc Bus							0	0	0	b	0	0
12:15	Car							15	36	12	21	57	19
	Truck							1_	0	1	0	P	D
	Sc Bus							1	0	0	0	0	D
12:30	Car							16	32	3	11	65	14
	Truck							0	0	1_	0	0	0
	Sc Bus							0	0	0_	0	0	0
12:45	Car							14	44	4	4	38	8
	Truck							0	0	2	1	2	0
	Sc Bus							0	0	0	0	. 0	0
1:00	Саг							12	42	9	B	52	U
	Truck							P	0	0	0	0	0
	Sc Bus							0	0	0	0	0	0

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1 158 - MOTOR cyclists

HORESTANT	Paris meter	TRAL DE		PEDES	TRIAN	COUN	<u>rs</u>	. \ \			ITA]	#14033]		
Loc: 3	#1	NYS	RTI	20(PUR	eh as	e Sy	\$	And	ersi	EATI Dy U	ill		
Survey	ors:								7.67.1	7				
N	.1			Pw	peho	rse	51	_						
[V					>						i		
					•					. 1	• 4			
			7	1		7,	4	And	epje	ou U	ill	20		
			-	1	2	1		8						
	Movement Number													
Time	1	2	3	4	Movement 5	Number 6	7	8	9	10	11	12		
7:45	0	В												
8:00	0	0												
8:15	O	0												
8:30	0	0									·			
8:45	0	0												
9:00	0	0												
9:15	0	0												
9:30	6	0	·											
	Ø	0												
4:15	0	0												
4:30	0	0												
4:45	0	0												
5:00		-												
5:15	0	0												
5:30	0	0		_				_						
5;45	Ø	0												
6:00	0	0												

Pd.

PEDESTRIAN COUNTS Loc: #1 NYS Pt 120 (Purchage St) & Anderson Will Surveyors: Day/Date: 09.97.19 Purchase St Anderson Will Rd Anderson Will Rd Movement Number Time 1 2 (9 (4) 5 6 7 8 9 10 11 12 7:45 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Pal
Anderson Will Rd Anderson Wi	74
Anderson Will Rd Anderson Wi	
Movement Number	
Movement Number	
Movement Number	
Movement Number	
Movement Number	
Time 1 2 (3 4) 5 6 7 8 9 10 11 12 7:45 0 <t< th=""><th></th></t<>	
Time 1 2 (c) (4) 5 6 7 8 9 10 11 12 7:45 0	
7:45 0 0 0	
8:00	
8:15	
6:15	
8:30	
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9:00	
9:15 0 0	
00	
9:30	
4:15 0 0	
4:30	
4:45 0 1	
5:00	
5:15	
5:30 0 0	
5:45	
6:00	

Loc: #1 Anderson Hill Road & Purchase Street (NYS Route 120)

					Movement	Number						
Time	1 _	2	3	4	5	6	7	8	9	10	11	12
9:15	0	0	O	1								
9:30	0	1	0	0								
9:45	Ø	0	0	0								
10:00	0	0	0	0								
10:15	0	0	0	0								
10:30	•	0	0	0								
10:45	0	0	0	• (
11:00	0	0	0	• 1								
11:15	0	0	0	0								
11:30	Q	0	0	. (
11:45	0	0	0	0								
12:00	0	Q	0	0]		<u>-</u>	_		
12:15	0	0	0	0								
12:30	0	0	0	0								
12:45	0	0	0	Ø								
1:00	0	0	0	0								

TURNING MOVEMENT COUNTS

14:00. Rd & HARROWS Lane [ATI #14033] Auderson Loc.: # Z Day/Date: 99 81 14 Surveyors: Happows Lane = 7 Anderson Will Rd **Movement Number** 12 Time Class 7:15 Car 57 7:30 Car 7:45 8:00 8:15 Car 60 8:30 Car 8:45 9:00

Page 2

[ATI #14033]

						Movement	Number						
Time	Class	1	2	3	4	5	6	7	8	9	10_	11	12
4:15	Саг	78	0	0	2		6 >	1877 PH 1899 (1788)	- 148 148 686 1.388 ATT 52:18	1817 1 1821 1 3 ANDRES	TELLER TELEFORMUSE ET	(25) 18) 18) 18) 18) 18) (2) 18) 18) 18) 18)	- NESTA BANGA SERSIA BANGA SE
4:30	Car	<u>Z</u> 2				3 14 14 14 14 14 14 14 14 14 14 14 14 14 1	6						
4:45	Car	8/			2		64						
5:00	Car	97			0	4	6 5 						
5:15	Car	103		D T	i v	6	63						
5:30	Car	 X 7 	0	0	0	0	54						
5:45	Car	93		0		Ö	70						
6:00	Car	81	0	0		3	84						

Loc.: # 2 - Anderson Will Ed **TURNING MOVEMENT COUNTS** [ATI #14033] Day/Date:__ 6-Apr Surveyors: Harrows Lave = 2 Anderson Hill Ed Movement Number 10 11 12 22 9:15 32 9:30 Car 57 9:45 Car 72 10:00 Car 10:15 Car 10:30 Car

10:45 Car

11:00 Car

ı						Movemen	Number						
Time	Class	1	2	3	4	5	6	7	8	9	10	11	12
11:15	Car	70	4	0	3	4	44			81 186 1882 1819 91 18.			
11:30	Car	38	0	0	2	3	40	Sinde to Late C Litta VII la l		mintro 1 8 8 1 3 1 1 1 1 1 1 1	ाद्वा सम्बद्धाः स्टब्स्	18 JUL 180 1984 17	(11111.18001A11.8811413.
:													
11:45	Car	38	0	2	2	1	63			INTESTINUTUS			
12:00		65	0	/		2	60	Sianomääsistaanuu	G HOST LYGIST BURNINGANG	. DELOLUTE LA TARRET UNA FA			
12:15	Car	102	1	1		2	48	E DELO BUELO GORGO, LOS	K TOKO MICHOZIA OPĖTAI	 	. antriistruurini		
12:30	Car	89	0	0	O	1	52	E UTBERNION KLADSTE) Pranci izisi s decellor	1 65 (1949) (1.486) (184	TERRITOR DE DIAMENTO DE SELECTION	# \$ 1901 9 FO 1948	Liore de Regional VII
12:45	Car	54	2	0	/ 	3	<i>59</i>	 - Sheki dadi hisi sali	1. MAI 17.8 (3.05.) 3.000			THE STATE OF THE S	
1:00		79	0	1	1		52) 	O TO THE OWN DISKS				

TURNING MOVEMENT COUNTS [ATI #14033] Day/Date: 04.01.14 LOC: #3- Anderson Vill Ed Surveyors:_ Anderson Will Rd 10 12 Class Time 7:15 |Car 7:30 Car 7:45 Car 8:00 8:15 | Car 8:30 Car 8:45 Car 9:00

Page 2 [ATI #14033]

	Movement Number												
Time	Class	1	2	3	4	5	6	7	8	9	10	11	12
4:15	Саг	52	سسس	4	31	42	73	a Hugaki shiraka, fub. 1-11) 	ALIONILIA INTERNATIONALI	NERV IV INVETERA, INTROETE FRIDE		Farnen er holder helde
				7									
4:30	Car	62		4	3 9	<i>3</i>	78		JURNOURE CONTRACTOR	90 TT 14 THÚIC TO THE LOUIS THE STAIR	PORELIEROTI ROSERIE		
4:45	Car	70		19	32	74 	82	. Na (2) November (1)					
						20							
5:00	Сат		<i>9</i>		26	<i>39</i>	91						
 -		61	9		20	<i>J3</i>	95						: Winder to see East Total
5:15	Car												
F-20		68		E	.22	61	101	STATE TO SERVICE STATES	STATE BASE OF CHILDREN	216: 200 (100 (100 (100 (100 (100 (100 (100	E ALL MEL REGINER LA UNITE	East Riefe Rief Tullion	nger på er jær i er o ea
5:30	Car												
												0	
5:45	Саг	56	11	/	40	31	98	and the collision of th					
6:00	Car	73	1	7	37	41	64						E 1486 e koje nove 1486 i
1						1							
					fi.								

RESPONSE AND ANALYSIS HA. **TURNING MOVEMENT COUNTS** [ATI #14033] & lincoln AVE LOC.: # 3 - Auderson Will Pd Surveyors:_ Andrew Mill Pd. Movement Number 10 11 12 Class Time 19 16 16 40 9:15 Car 12 38 9:30 9:45 10:00 35 55 10:15 Car SD 10:30 38 40 10:45 Car 11:00 Car

C:7

Page 2 [ATI #14033]

	Movement Number												
Time	Class	1	2	3	4	5	6	7	8	9	10	11	12
11:15	Саг	ઢેઠ	2	5	16	17	54						
11:30	Car	28	2	2	16	15	32					_	
11:45	Car	48	۵	1	21	16	20						
12:00	Car	54	4	B	36	r2	53						
12:15	Car	45	6	!	13	45	108	4=					
12:30	Car	39	6	4	17	16	76						
12:45	Car	36	5	1	14	37	56						
1:00	Car	5 §	5	3	18	35	77						

AMERICA'S TRAFFIC DISCRIBATION, 180. LOC.: # 4-Anderson Viel Ed & PEDSICO (SUNY Access DRIVE) Day/Date: 04.01.14 Surveyors: SUNY 321 Tio Anderson Mill Fd.
Pepsico Movement Number 10 11 12 2 Time Class 1 2 15 25 2 7:15 Car 0 2 O 0 Truck 31 U 7:30 0 0 Truck 0 7:45 Car O 2, Truck 4 0 8:00 Car 0 6 0 Truck 0 59 8:15 Car Truck 85 0 8:30 Car Û 17 Truck 8:45 Car 8 .0 Truck 70 6 50 6 9:00 Car D 0 O Truck

Location: # 4

Page 2

[ATI #14033]

		.,				Movemen	Number						
Time	Class	1	2	3	4	5	6	7	8	9	10	11	12
4:15	Car	9	0	53	50	29	0						
	Truck	2	Ő		(0	. 0		Zamonitistaarra di La	India J. H. Markey Colored R. C.	Ferrinaserinine	The state and a state of	
4:30	Car	11	0	71	62	30	0						
	Truck	0	10	3	3	3	0	TT 1 5506 85 (6000 TO 20 0 0 0 1 1 1 1 1 1 1	o sa dan uniyasanga	. Idunga Estata sa di	all 1 100 rae%.2941.881	s. N. Siste Olie Publicaniek	Single in degree to personal district
4:45	Car	9	0	91	53	35	1						
	Truck	. 0	V	(Ч	0	0	DAL HUSCISIASTRASI	C BENNETH HIN KIRTSCH I SA-	जार्क्सरमा नेक्ट । तमान्यनकि	- 00080 - 000 SERVICE - 500 - 00080 - 000 SERVICE - 500	1 00 / 1768 1755 (8 17 00 0 1 1 F	nyo dhafasan dagara ayarad
5:00	Car	7	ีย	75	50	29	0						
	Truck		Ð	2			0	ELVÍNEDRI SIKI SI I HULLING	81-117-868-10-10-1		is of today as a substitute for th	o Mari Mi nal humbal	986 2000 1488 P.O
5:15	Car	18	0	42	401	24	1		-				- 0
	Truck	ni e Ferresca associatione	· <i>0</i>	4		3	<i>O</i>	EFOR IST MARLY ANNOUNCED	John Berger (1886)			r searchteach	SO REPORTED IN
5:30	Car	15	0	75	39	40	0						
	Truck	0	0	11. F6.51 (411 1551 1 F.			0						
5:45	Car	[]	0	62	54	33	3						
	Truck	REGISTER FOR FREE FOR FREE FOR FREE FREE FREE		2	し		0	SHOOMEN WAR SHOOM				e descent hosen	
6:00	Car	10	V	56	15	40	0						
	Truck		0	0	0	2	0	African Dinner and Print the	a respect to the second	Carrie de la Carrie de Lacone de la compansión de la comp	end I diversified the second	CO SEE LES anches ballet	aliesi felo I lankua e
<u> </u>													

TURNING MOVEMENT COUNTS LOC.: # 4-Anderson Niel Rd & PEPSICO SUNY Accept DRIVEY Day/Date: 84 8/ Surveyors: SUNY 321 - Anderson Will Fd. - Pepsico Movement Number 12 11 10 Time Class 2 3 24 D 2 0 0 7:15 |Car 0 0 0 Truck 7:30 Car Truck 3 0 O 7:45 Car Truck 26 0 0 8:00 | Car B 0 0 0 Truck 22 0 0 8:15 Car 3 0 3/ 0 0 0 8:30 Car 0 0 0 Ō Truck 25 2 0 0 8:45 Car Truck 28 Z Ũ O 9:00 Car Ō 0 Truck

Page 2

[ATI #14033]

						Movement	Number						
Time	Class	1	2	3	4	5	6	7	8	9	10	11	12
4:15	Car			_				2	0	0	0	47	7
. '	Truck							0	0	0	0	8	U
4:30	Car							0	0	0	0	41	9
	Truck				_			0	0	0	0	5	0
4:45	Car							0	0	0	0	36	9.
	Truck							0	0	0	0	3	
5:00	Car							_0_	0	0	0	41	/3
	Tručk							0	0	0	0	2	
5:15	Car							0	0	<u>C</u>	0	64	6
1	Truck			Control of the Contro		Local Bobbs III L Ball Vanis	10-15-5% Jahr 11 10-11	<u>O</u>	0			E SERVICIO DE LA COMPANIO DEL COMPANIO DE LA COMPANIO DEL COMPANIO DE LA COMPANIO DEL COMPANIO DE LA COMPANIO DE LA COMPANIO DEL COMPANIO DE LA COMPANIO DE LA COMPANIO DE LA COMPANIO DE LA COMPANIO DE LA COMPANIO DE LA COMPANIO DE LA COMPANIO DE LA COMPANIO DE LA COMPANIO DE LA COMPANIO DE LA COMPANIO DE LA COMPANIO DEL COMPANIO DEL COMPANIO DE LA COMPANIO DE LA COMPANIO DE LA COMPANIO DE LA COMPANIO DE LA COMPANIO DE LA COMPANIO DE LA COMPANIO DEL COMPANIO DE LA COMPANIO DE LA COMPANIO DE LA COMPANIO DE LA COMPANIO DEL COMPANIO DE LA COMPANIO DE LA COMPANIO DE LA COMPANIO DE LA COMPANIO DE LA COMPANIO DE LA COMPANIO DE LA COMPANIO DEL COMPANIO DE LA COMPANIO DEL COMPANIO DEL COMPANIO DEL COMPANIO DEL COMPANIO DEL COMPANIO DEL COMPANIO DEL COMPANIO DEL COMPANIO DEL COMPANIO DEL COMPANIO DEL COMPANIO DEL COMPANIO DEL COM	3
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[ATI #14033]

	<u> </u>					Movement	Number						
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Location: #4

Page 2 [ATI #14033]

						Movement	Number						
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AUTOMATIC TRAFFIC RECORDER

TRINITY PRESBYTERIAN CHURCH, 526-530 ANDERSON HILL ROAD, PURCHASE, NY - (#823.000) FIELD DATA SUMMARY - ANDERSON HILL ROAD, WEST OF HARROWS LANE

	Sunda	ay, March 30, 2014	+107	Mond	MORIORAY, MAICH 31,	, 4014	'ARDSAN I	4 nay, 4 prin 01, 2014	4014	wedne	wednesday, April 04,	, 2014
TIME	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM				29	56	55	18	95	7.4	34	44	78
1:00 AM				13	15	28	91	12	42	19	24	43
2:00 AM			H()	5	8	13	£	15	20	12	19	31
3:00 AM				9	5	11	L	٤	10	∞	6	17
4:00 AM			()	6	9	15	13	9	19	13	12	25
5:00 AM				15	12	27	37	15	52	31	27	58
6:00 AM				164	43	207	237	42	304	245	46	291
7:00 AM				205	129	334	301	146	413	309	153	462
8:00 AM				379	194	573	t74	[8]	309	445	237	682
9:00 AM			e]	309	176	485	332	145	177	371	183	554
10:00 AM				284	191	451	284	191	451	566	178	444
11:00 AM	149	163	312	225	176	401	227	881	365	276	190	466
12:00 PM	210	262	472	251	194	445	957	210	991	197	211	472
1:00 PM	225	178	403	216	177	393	51-7	218	£9 1	242	239	481
2:00 PM	207	194	401	229	234	463	251	232	483	260	238	498
3:00 PM	209	204	413	244	310	554	273	336	609	267	360	627
4:00 PM	192	245	437	281	286	295	275	302	577	278	290	268
5:00 PM	181	181	362	282	321	603	284	352	989	330	371	701
6:00 PM	196	146	342	286	320	909	314	297	611	356	319	675
7:00 PM	153	138	162	223	229	452	262	240	5,12	257	243	200
8:00 PM	139	111	250	153	204	357	195	200	395	156	172	328
9:00 PM	16	113	204	114	213	327	142	222	364	701	234	336
10:00 PM	70	64	134	78	114	192	791	122	224	80	136	216
11:00 PM	44	48	92	40	70	110	5.2	64	121	59	64	123
TOTAL	2.066	2.047	4.113	4.040	3.629	699.2	1 580	3.74R	K 7.17	7 K77	2 000	8 676

	Thurs	Thursday, April 03, 2014	2014	Frid	Friday, April 04, 2014	2014	Satur	Saturday, April 05, 2014	, 2014	ung	Sunday, April 96, 2014	2014
TIME	EB	WB	Total	EB	WB	Total	EB	WB	Total	KB	WB	Total
12:00 AM	34	47	81	30	73	103	28	99	94	52	45	140
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2:00 AM	- 9	10	16	Ĺ	8	15	16	34	50	25	36	19
3:00 AM	10	4	14	12	6	21	11	10	21	f)	23	32
4:00 AM	4	4	8	14	7	21	14	14	28	7	91	23
5:00 AM	33	15	48	30	61	49	22	20	42	13	6	26
6:00 AM	205	09	365	722	99	283	61	30	91	33	21	15
7:00 AM	299	140	439	258	145	403	102	63	165	85	53	Ξ
8:00 AM	454	681	643	448	204	652	205	108	313	113	71	183
9:00 AM	256	061	446	371	185	556	225	172	397	201	63	264
10:00 AM	295	173	894	182	183	464	203	243	446	201	14	275
11:00 AM	221	148	69€	247	224	471	210	229	439	179	145	324
12:00 PM	300	214	514	308	325	630	183	234	417	193	305	494
1:00 PM	215	218	433	218	331	549	142	233	375	346	225	471
2:00 PM	247	254	501	. 768	331	599	205	213	418	417	15.2	695
3:00 PM	237	306	543	305	382	687	237	204	441	203	227	430
4:00 PM	305	324	629	321	426	747	242	225	467	195	265	091
5:00 PM	296	346	642	10£	443	744	561	172	367	181	297	478
6:00 PM	309	287	396	222	313	535	242	122	364	881	234	422
7:00 PM	234	223	457	182	216	398	312	129	441	7 \$1	171	313
8:00 PM	145	187	332	121	142	263	791	16	259	16	158	252
9:00 PM	124	209	333	104	132	236	981	139	275	62	116	178
10:00 PM	83	101	184	58	109	194	128	254	382	28	98	114
11:00 PM	63	74	137	79	81	143	66	121	214	6	55	75
TOTAL	4,401	3,746	8,147	4,430	4.386	8.816	96€€	3,159	6.555	2.868	2.936	5.804

Frederick P. Clark Associates, Inc. 4/9/2014
G-823.000 Trinity Church, Purchase\Excellahr14-001 stc xls

American Traffic Information, Inc. 336 Pulaski Ave Staten Island, NY, USA 10303 718-447-5161

olali	24-Mar-14	4	en l		wed		2				Sat			Sun	Week A	erage
Time	EB	ΜB	EB	WB	EB	WB	EB	WB	B	WB	EB	WB	EB	WB	EB WB	× ×
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⊑	WB	97	40	36	23	16	o	21	53	71	63	74	145	302	225	152	227	265	297	234	171	158	116	86	55	2936		11:00	145	12:00	302
Sun	EB	52	20	25	o	7	17	30	28	112	201	201	179	192	246	417	203	195	181	188	142	94	62	28	6	2868	5804	00:60	201	14:00	417
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S	EB	28	22	16	11	4	22	61	102	205	225	203	210	183	142	205	237	242	195	242	312	162	136	128	93	3396	655	00:60	225	19:00	312
Fri	WB	73	42	00	6	7	19	56	145	204	185	183	224	325	331	331	382	426	443	313	216	142	132	109	81	4386		11:00	224	17:00	443
_	EB	30	=	7	12	4	30	227	258	448	371	281	247	305	218	268	305	321	301	222	182	121	104	85	62	4430	8816	08:00	448	16:00	321
Thu	WB	47	23	10	4	4	15	9	140	189	190	173	148	214	218	254	306	324	346	287	223	187	508	101	74	3746	11	00:60	190	17:00	346
	EB	34	56	9	10	4	33	205	299	454	256	295	221	300	215	247	237	305	296	309	234	145	124	83	63	4401	814	08:00	454	18:00	309
Wed	WB	44	24	10	ථා	12	27	46	153	237	183	178	190	211	239	238	360	290	371	319	243	172	234	136	64	3999	co	08:00	237	17:00	371
\$	EB	34	19	72	υO	13	31	245	309	445	371	266	276	261	242	260	267	278	330	356	257	156	102	80	29	4677	867	08:00	445	18:00	356
Tue	WB	99	54	15	က	9	15	29	146	181	145	167	138	210	218	232	336	302	352	297	240	200	222	122	64	3758	- 21	08:00	181	17:00	352
, —	EB	18	18	S	7	13	37	237	301	424	337	284	227	256	245	251	273	275	284	314	292	195	142	102	25	4589	8347	08:00	424	18:00	314
ar-14	WB	26	15	00	5	9	12	43	129	194	176	167	176	194	177	23.4	310	283	324	320	229	204	213	114	22	3629	39	08:00	194	17:00	321
31-Mar-14	EB	29	13	D.	ဖ	တ	15	164	205	379	309	284	225	251	216	229	244	281	282	286	223	153	114	78	04	4040	1669	08:00	379	18:00	286
Start	Time	12:00 AM	01.00	05:00	03.00	04:00	02 00	00:90	00 20	08:00	00 60	10:00	11 00	12:00 PM	01 00	05:00	03 00	04:00	02 00	00:90	00 20	00.80	00 60	10:00	11 00	Lane	Day	AM Peak	Vol.	PM Peak	Vol.

American Traffic Information, Inc. 336 Pulaski Ave Staten Island, NY, USA 10303 718-447-5161

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-14	ΜB	17	œ	7	CI	4	0.	43	125	161	136	*	*	12	*	*	*	*	*	*	*	*	*	*	*	519	_	
07-Apr-14	Щ. Ж	3	7	_	7	8	00	32	86	261	298	*	*	*	*	*	*	*	*	*	*	*	*	*	*	695	1214	
Start	Time	12:00 AM	01.00	05:00	03 00	04:00	02 00	00:90	00 20	08:00	00 60	10:00	11:00	12:00 PM	01 00	02:00	03 00	04:00	02 00	00:90	00 20	08:00	00 60	10:00	11 00	Lane	Day.	(20)

American Traffic Information, Inc. 336 Pulaski Ave Staten Island, NY, USA 10303 718-447-5161

95th	Percent	*	*	*	*	*	*	*	*	*	*	*	45	. 4	46	45	4 8	45	45	47	45	45	4 4	45	46			!			
85th	Percent	*	•	•	•	*		•	٠	*	*	20	43	: 4	43	43	44	43	43	43	42	43	4	43	43						
	Total	*	٠	٠	,	÷	*	*	*	*	*	*	149	210	225	207	209	192	181	196	153	139	91	70	44	2066		11:00	149	13:00	
92	666	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%				
71	75	*	*	*	÷		*	*	٠	٠	•	*	0	_	0	_	-	0	0	~	0	0	0	0	0	4	0.2%			12:00	1
99	70	*	*	*	ě		×	+	*	٠	•	*	0	0	0	0	0	0	o	7	-	0	0	0	0	က	0.1%			18:00	
61	65	*	*	*	*	i.t.	2	i.	*	•	٠	*	0	0	0	0	O	0	0	-	0	7	0	0	0	က	0.1%			20:00	
26	90	*	*	*	*	*	*	*	*	*	*	*	0	o	0	0	0	0	0	0	0	0	0	0	0	0	%0.0				
51	55	*	*	*	*	*	*	*	*	*	*	*	0	က	7	_	4	0	Φ	0	7	0	0	0	-	13	0.6%			15:00	
46	20	*	٠	81	*	*	5	e.	٠	*	*	٠	7	. 5	10	4	13	9	∞	Ф	7	4	က	ო	2	85	4.2%	11:00	7	12:00	
4	45	*	٠	٠	•	*	•	*	*	*	*	*	33	46	51	44	9	56	48	38	59	28	13	16	12	472	22.8%	11:00	31	15:00	ć
36	40	*	*	*	*	*	*	*	*	*	*	*	57	71	110	85	73	92	82	79	70	22	43	27	20	866	41.9%	11:00	57	13:00	
31	35	*	*	*	*	*	*	*	*	*	*	*	34	53	36	28	49	35	35	52	34	35	56	17	9	470	22.7%	11:00	34	14:00	1
56	30	*	•	٠	٠	*	*	•	•	•	*	•	16	12	6	7	9	0	9	13	7	7	4	2	3	107	5.2%	11:00	16	18:00	•
24	52	*	•	٠	٠	•	*	×	£?	*	*	*	က	4	က	-	-	0	~	-	2	~	~	2	0	20	1.0%	11:00	က	12:00	•
16	50	*	*	*	*	*	*	*	*	*	*	*	-	_	7	-		-	0	0	7	-	-	0	0	7	0.5%	11:00	-	13:00	,
τ-	15	*	*	٠	٠	٠	*	*	•	٠	*	*	0	4	2	_	~	7	-	0	0	0	0	0	O	7	0.5%			12:00	•
Start	Time	03/30/14	04:00	02:00	03:00	04:00	02:00	00:90	07:00	08:00	00:60	10:00	11:00	12 PM	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total	Percent	AM Peak	Vol.	PM Peak	

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95th	Percent	45	46	46	51	46	42	43	42	44	45	46	45	46	45	45	45	46	45	67	72	70	71	71	53						
85th	Percent	43	45	45	4	42	4	39	39	40	45	43	42	43	43	4	40	44	45	45	9	57	56	62	49						
	Total	53	13	5	9	O	15	164	205	379	309	284	225	251	216	229	244	281	282	286	223	153	114	78	40	4040		08:00	379	18:00	286
9/	666	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	%0.0				
71	75	0	0	0	0	0	0	0	-	_	က	2	_	0	0	_	0	0	-	8	15	ω	φ	ß		55	1.4%	00:60	ო	19:00	7.
99	20	o	0	Φ	0	0	o	0	0	τ-	τ-	7	0	0	0	0	-	0	0	00	ത	7	က	4	_	37	%6.0	10:00	2	19:00	σ
61	65	0	0	0	0	0	0	0	o	0	-	_	o	Φ	o	0		0	0	က	9	2	က	4	0	25	%9.0	00:60	_	19:00	5
29	90	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0	က	5	O	4	2	0	32	0.8%	11:00	_	19:00	5.5
5	55	0	0	0	-	0	~	~	0	0	_	7	0	4	0	0	0	4	~	4	9	თ	7	4	က	52	1.3%	10:00	2	19:00	10
46	20	-	2	-	0	_	Ф	Ŋ	0	ស	တ	60	m	12	7	9	00	13	80	16	တ	7	ဖ	4	3	136	3.4%	11:00	6	18:00	16
4	45	∞	-	-	-	7	2	∞	16	45	48	25	32	45	55	8	27	69	20	20	33	4	12	10	5	629	15.6%	10:00	52	16:00	69
မ္တ :	40	15	4	τ-	7	က	4	34	63	151	110	117	86	100	96	92	100	104	129	98	32	25	18	16	16	1422	35.2%	08:00	151	17:00	129
<u>ب</u>	35	ო	4	2	8	ო	7	54	77	137	103	70	74	9	39	63	69	61	61	48	27	26	19	6	3	1021	25.3%	08:00	137	15:00	69
58	30	-	2	0	0	0	0	37	34	37	22	19	15	7	7	27	20	17	19	19	46	32	23	14	4	410	10.1%	00:90	37	19:00	46
21	25	-	0	0	0	0	-	20	10	-		9	2	2	က	-	7	2	2	8	=======================================	12	თ	က	4	114	2.8%	00:90	20	20:00	12
9 5	20	0	0	0	0	0	0	က	-	0	2	0	-	ဖ	7	-	z,	4	က	က	4	-	0	-	0	37	%6.0	00:90	9	12:00	G
- ;	15	0	0	0	0	0	0	2	က	-	4	S)	4	80	က	-	ဖ	_	∞	മ	4		2	7	0	70	1.7%	10:00	22	18:00	Ø
Start	<u>i</u>	03/31/14	04:00	02:00	03:00	04:00	02:00	00:90	00:20	08:00	00:60	10:00	11:00	12 PM	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Tota	Percent	AM Peak	Vol.	PM Peak	Vol.

95th	Percent	99	70	71	71	65	62	29	70	99	99	46	44	45	47	45	45	46	47	29	69	49	71	71	72						
85th	Percent	43	43	56	51	09	56	55	25	20	44	4	4	43	43	42	42	43	43	45	56	90	4	62	61						
	Total	18	18	S	7	13	37	237	301	424	332	284	227	256	245	251	273	275	284	314	292	195	142	102	22	4589		08:00	424	18:00	314
9/	666	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	%0.0				
71	75	0	_	_	-	0	τ-	9	15	13	13	-	0	0	0	0	-	τ-	က	10	13	4	œ	9	D.	103	2.2%	07:00	15	19:00	13
99	70	2	_	0	0	_	~	6	9	တ	5	_	_	_	0	-	0	0	0	6	6	თ	10	S	7	83	1.8%	00:90	10	21:00	9
61	65	0	0	0	0	-	2	10	6	5	4	0	0	0	_	0	0	0	_	o o	12	4	12	7	3	96	2.1%	08:00	13	20:00	4
26	9	_	0	_	0	-	ဗ	တ	œ	12	က	-	0	0	_	-	0	,- -	0	4	ر	7	9	10	4	06	2.0%	08:00	12	19:00	5
51	55	0	_	0	_	_	က	7	12	1	9	_	0	-	0	τ-	2	ო	4	4	24	13	S.	7	. 2	116	2.5%	08:00	14	19:00	54
46	20	0	0	0	0	0	2	ග	13	7	œ	13	က	တ	16	7	က	12	o o	11	တ	6	မ	က	ဗ	166	3.6%	08:00	21	13:00	16
41	45	e,	က	-	-	_	2	35	37	4	48	7	37	48	46	38	20	45	54	45	4	15	10	თ	9	687	15.0%	10:00	71	17:00	72
36	40	4	5	0	2	7	7	23	68	110	111	116	96	101	86	107	96	108	120	86	61	31	16	-	10	1431	31.2%	10:00	116	17:00	120
31	35	4	4	-	0	7	7	4	9	96	9	63	6 7	75	61	99	84	63	58	22	37	16	21	O)	80	946	20.6%	08:00	06	15:00	84
56	30	ო	က	Ψ-	_	2	ω	36	49	9	36	7	20	Ξ	10	20	23	23	O	34	22	49	35	28	11	540	11.8%	08:00	90	19:00	27
7	25	-	0	0	-	2	2	5	12	08	20	2	က	ო	S	4	က	2	_	14	చ్	2	6	ဖ	2	180	3.9%	08:00	30	20:00	23
16	20	0	0	0	0	0	0	2	4	40	2	က	0	-	က	2	0	စ	7	ις	_	Φ	က	τ-	-	49	1.1%	08:00	2	17:00	7
-	15	0	0	0	0	0	_	က	6 0	9	13	-	က	9	4	က	11	œ	12	4	က	က	_	0	0	100	2.2%	00:60	13	18:00	14
Start	Time	04/01/14	01:00	02:00	03:00	04:00	02:00	00:90	00:20	08:00	00:60	10:00	11:00	12 PM	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total	Percent	AM Peak	Vol.	PM Peak	Vol.

95th	Percent	99	55	29	57	25	72	29	69	65	59	69	65	71	61	65	62	49	53	71	72	71	70	56	71						
85th	Percent	26	49	4	20	75	. 4	20	75	49	4	48	49	49	45	4	45	43	4	56	4	90	57	45	47						
	Total	æ	19	12	∞	13	3.5	245	309	445	371	266	276	261	242	260	267	278	330	356	257	156	102	80	59	4677		08:00	445	18:00	356
9/	666	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Φ	0	0	0	0	0	0	0	0	0	0	%0.0				
71	75	-	Ф	-	0	Φ	4	7	4	14	11	1,	o	5	6	7	œ	4	ဖ	20	23	1	വ	2	4	190	4.1%	00:20	4	19:00	22
99	20	2	0	0	0	0	0	7	2	∞	4	9	δ	တ	_	7	ო	7	4	1	13	4	7	0	2	87	1.9%	08:00	∞	19:00	7.
61	65	0	0	0	0	0	0	4	12	15	-	5	9	က	က	-	4	τ-	-	5	4	∞	4	_	1	66	2.1%	08:00	15	18:00	7,
26	90	3	τ-	_	2	0	τ-	∞	16	12	12	9	10	7	4	5	9	က	4	œ	80	9	80	2	_	134	2.9%	02:00	16	18:00	α
51	55	-	_	0	0	က	0	7	æ	5	10	80	æ	က	4	ဖ	ဖ	ო	5	7	13	თ	ო	7	-	127	2.7%	08:00	15	19:00	7,
46	20	က	Ŋ	0	_	0	ო	13	10	6	1	10	/	=	6	9	∞	~	0	15	თ	7	4	4	2	180	3.8%	08:00	19	18:00	<u>ر</u> تر
41	45	5	-	4	-	က	2	23	36	25	33	33	35	41	41	36	35	47	22	28	21	4	13	1 3	10	618	13.2%	08:00	52	18:00	ą,
36	40	7	0	2	2	2	6	20	73	88	74	73	71	69	59	85	9/	98	130	93	49	36	20	21	12	1219	26.1%	08:00	88	17:00	130
3	35	4	4	-	0	7	ო	25	20	82	94	61	47	25	20	58	54	69	72	61	35	4	16	24	14	919	19.6%	00:60	94	17:00	72
26	30	ß	5	7	2	က	ß	35	09	80	54	38	75	35	8 8	8	37	30	56	45	26	35	22	∞	ω	602	15.2%	08:00	80	19:00	56
24	25	က		7-	0	0	-	13	16	27	28	თ	16	9	16	4	16	œ	9	10	15	တ	4	က	က	215	4.6%	00:60	28	13:00	4
16	20	0	_	0	0	0	0	7	7	<u>6</u>	10	4	- -	ന	φ	7	စ	_	ღ	4	-	-	~	0	0	73	1.6%	08:00	13	13:00	œ
- !	15	Φ	0	0	0	0	0	0	S.	17	23	2	က	7	4	၈	Φ	വ	o o	6	ო	2	0	0	~	107	2.3%	00:60	23	14:00	σ
Start	Time	04/02/14	01:00	05:00	03:00	04:00	02:00	00:90	02:00	08:00	00:60	10:00	11:00	12 PM	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total	Percent	AM Peak	Vol.	PM Peak	ΙοΛ

95th	Percent	65	61	46	51	4	20	57	55	52	46	45	45	45	45	4	45	45	47	68	70	69	65	61	61					ļ	
85th	Percent	45	43	43	20	37	45	43	4	42	43	4	43	42	42	40	43	42	4	45	56	54	20	54	50						
	Total	怒	26	φ	9	4	33	205	299	454	256	295	221	300	215	247	237	305	296	309	234	145	124	83	63	4401		08:00	454	18:00	309
9/	666	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%				
71	75	-	-	0	-	0	0	တ	വ	7	2	_	-	-	0	0	0	_	2	13	12	9	4	7	-	29	1.5%	08:00	7	18:00	13
99	70	Ψ.	0	o	o	0	0	ო	-	რ	0	0	0	0	0	0	0	0	0	ഹ	80	ღ	7	0	_	27	%9.0	00:90	ო	19:00	ω
61	65	-	-	Φ	o	0	0	0	-	7	7	_	_	O	0	Φ	0	_	o	ത	4	က	ιΩ	ო	2	36	0.8%	08:00	2	18:00	თ
26	90	0	0	0	0	0	0	က	ø	7	0	0	-	0	0	0	-	0	0	_	13	7	2	ၑ	1	20	1.1%	02:00	œ	19:00	13
51	55	-	0	0	-	Φ	7	0	4	9	0	-	0	_	0	_	_	-	7	က	7	۲	ၑ	ო	4	51	1.2%	08:00	9	19:00	7
46	50	0	Φ	_	-	Φ	2	ဖ	6	7	7	6	4	4	9	4	6	00	, 131	တ	15	2	S	7	3	136	3.1%	08:00	11	17:00	15
41	45	10	7	က	7	-	12	9	48	54	44	37	52	54	34	31	45	52	74	22	27	4	17	4	10	731	16.6%	08:00	54	17:00	74
36	9	∞	7	2	-	7	7	7	88	171	89	126	77	116	89	118	83	127	11	111	90	33	27	20	18	1572	35.7%	08:00	171	16:00	127
31	32	5	4	0	က	_	თ	51	83	106	20	78	26	92	69	74	20	69	58	25	33	37	22	17	12	1054	23.9%	08:00	106	12:00	92
26	30	9	-	0	-	0	0	6	27	49	27	18	16	19	10	12	22	24	20	27	40	22	19	13	8	400	9.1%	08:00	49	19:00	40
21	25	_	0	0	0	0	-	6	o o	<u>5</u>	ო	10	4	က	က	7	4	4	2	2	6	7	12	-	1	103	2.3%	08:00	13	21:00	12
9	20	0	-	0	0	0	0	ιΩ	ဖ	9	က	9	4	က	-	2	2	4	-	വ	2	0	0	7	2	28	1.3%	02:00	ပ	15:00	5
-	15	0	0	0	0	0	0	2	0	19	ťΩ	∞	Ŋ	7	က	က	17	14	11	14	4	Φ	0	0	0	116	2.6%	08:00	19	16:00	4
Start	Time	04/03/14	01:00	05:00	03:00	04:00	02:00	00:90	00:20	08:00	00:60	10:00	11:00	12 PM	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total	Percent	AM Peak	Vol	PM Peak	Vol.

95th	Percent	20	38	2 4	50.50	5.5	47	6	22	63	28	63	53	51	51	48	68	65	72	99	59	26	46	44	46						
85th	Percent	40	37	40	49	42	. 4	4.75	4	45	4	45	43	43	4	42	47	47	45	20	43	4	4	40	4			1			
	Total	30	-		12	4	30	227	258	448	371	281	247	305	218	268	305	321	301	222	182	121	104	85	62	4430		08:00	448	16:00	321
9/	666	0	0	0	0	c	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	%0.0				
71	75	0	0	0	0	0	0	7	ო	6	10	11	ဖ	4	2	မှ	10	7	20	7	4	ო	0	0	8	114	2.6%	10:00	7	17:00	20
99	70	o	0	0	0	0	0	8	ო	ιΩ	9	~	4	-	_	_	2	ග	7	ιņ		7	0	_	0	75	1.2%	00:60	မ	15:00	÷
61	65	0	0	0	0	0	-	က	7	15	-	5	-	7	-	_	7	7	2	7	က	0	7	0	-	64	1.4%	08:00	15	15:00	7
26	99	-	0	0	0	0	0	9	5	£	∞	4	-	7	7	τ-	7	13	2	7	လ	7	0	0	0	11	1.7%	08:00	7	16:00	5
51	55	-	Ф	0	-	7	0	5	9	7	10	4	ო	7	ĸ	-	Ŋ	9	4	2	2	4	0	0	0	82	1.9%	08:00	11	12:00	7
46	20	-	C	O	£,	C	ო	80	10	တ	9 0	12	4	7	10	\$	10	σ	5	ო	4	4	4	7	1	131	3.0%	10:00	12	12:00	7
41	45	2	-	-	•	7	4	37	30	25	46	47	4	47	36	8	32	54	45	24	19	7	6	ø	7	596	13.5%	08:00	52	16:00	2
36	40	12	ო	9	က	4	12	56	11	143	117	74	78	87	7	94	8	92	89	63	52	34	33	32	20	1333	30.1%	08:00	143	14:00	94
31	35	7	9	0	0	က	ო	99	29	94	93	64	99	80	47	29	29	51	68	51	23	36	36	25	21	1066	24.1%	08:00	94	12:00	CX
26	30	7	_	0	7	က	~	26	35	3	49	40	21	38	16	\$€	20	4	35	38	22	17	15	12	ဖ	558	12.6%	08:00	4	15:00	20
21	25	4	0	0	0	0	ო	9	o	ф Б	16	6	ထ	7	12	12	œ	7	10	2	9	വ	4	4	2	164	3.7%	08:00	<u>6</u>	13:00	62
16	20	0	0	Φ	0	Φ	-	2	тO	∞	7	7	4	7	9	7	7	œ	7	7	τ-	0	-	-	2	88	1.5%	08:00	8	16:00	œ
ᠸ┊	15	0	0	0	0	0	7	က	9	œ	വ	∞	9	1 3	2	₩	9	1	o	က	က	0	0	0	0	123	2.8%	11:00	10	14:00	ξ
Start	Time	04/04/14	01:00	02:00	03:00	04:00	02:00	00:90	02:00	08:00	00:60	10:00	11:00	12 PM	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total	Percent	AM Peak	Vol.	PM Peak	O /

_		l ro	10	'n	ľ	·m	ın	0	ın	'n	_	~	'n	* 1	0	ıo	ıo	_	m	~	œ	m	~	Ŋ	₹†	ı	[ı		1	
95th	Percent	4	4	4	4	4	4	ស៊	55	4	4	4	ਲੱ	ď	30	4	4	4	Ó	7	ő	ñ	ίĊ	'n	ά						
85th	Percent	42	33	43	44	45	43	45	45	42	43	38	33	53	28	43	42	43	47	29	90	20	45	46	47			:			
	Total	78	22	16	Ξ	4	22	61	102	202	225	203	210	183	142	205	237	242	195	242	312	162	136	128	93	3396		00:60	225	19:00	312
9/	666	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	%0.0				
71	75	-	0	0	0	0	0	_	_	_	2	0	_	0	0	-	4	က	4	2	14	4	0	_	2	58	1.7%	00:60	7	18:00	18
99	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	_	7	7	4	5 6	7	–	0	0	0	43	1.3%			18:00	56
61	65	0	0	0	0	-	0	0	_	0	0	0	0	-	0	0	0	0	ო	35	23	7	2	7	-	71	2.1%	04:00	-	18:00	35
26	9	0	0	0	0	0	0	-	က	_	0	0	0	_	0	2	0	-	σ	35	33	4	က	ო	-	97	2.9%	07:00	3	18:00	32
51	22	0	0	0	0	0	0	-	_	7	ო	2	0	0	0	0	ო	_	7	31	40	12	7	5	5	115	3.4%	00:60	3	19:00	40
46	20	-	-	7	7	-	-	5	7	œ	5	0	0	0	0	7	က	80	10	24	43	7	Ŋ	10	8	162	4.8%	00:60	10	19:00	43
41	45	4	-	က	4	5	9	12	21	30	45	12	က	_	-	4	40	42	49	26	30	37	56	24	17	483	14.2%	00:60	45	17:00	49
20	40	10	œ	ည	က	4	7	26	31	84	92	37	∞	4	0	79	88	108	63	15	28	45	46	4	26	892	26.3%	00:60	95	16:00	108
ري ا	35	თ	9	4	τ-	2	9	-	24	47	25	33	35	7	9	48	62	56	35	4	19	20	21	23	14	566	16.7%	00:60	52	15:00	79
97	30	7	က	7	-	_	7	_	ග	18	13	33	51	59	56	<u>4</u>	12	1	4	∞	18	11	16	13	10	308	9.1%	11:00	51	12:00	53
1.7	25	-	2	0	0	0	0	2	2	က	7	32	S.	67	8	9	2	7	5	∞	Ξ	Φ	9	5	2	262	7.7%	11:00	53	13:00	9
<u>9</u>	20	0	0	0	0	0	0	0	7	ស	7	30	58	47	8	က	7	2	က	7	တ	9	4	2	5	183	5.4%	10:00	30	12:00	47
- !	15	0	-	0	0	0	0	-	0	ဖ	_	24	30	40	13	ស	_	9	4	9	9	0	0	0	2	156	4.6%	11:00	30	12:00	40
Start	Time	04/05/14	01.00	02:00	03:00	04:00	02:00	00:90	02:00	08:00	00:60	10:00	11:00	12 PM	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total	Percent	AM Peak	Vol.	PM Peak	Vol.

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95th	Percent	51	52	9	51	46	53	50	70	65	73	45	45	45	45	45	48	47	59	55	46	48	45	46	47						
85th	Percent								51			43									44						:				
	Total	52	20	25	6	7	17	30	28	112	201	201	179	192	246	417	203	195	181	188	142	94	62	28	თ	2868		00:60	201	14:00	100
9/	666	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	٥	%0.0				
71	75	0	0	0	0	0	0	0	ო	4	19	0	_	0	0	_	m	_	ဗ	-	0	0	0	0	0	36	1.3%	00:60	19	15:00	
99	70	0	0	0	0	0	0	0	_	7	6	0	0	0	0	0	0	0	ო	0	0	0	0	0	0	15	0.5%	00:60	თ	17:00	
61	65								0																				21		
26	9	0	0	-	0	0	0	~	2	თ	12	0	0	0	0	0	~	2	4	4	0	0	0	0	0	36	1.3%	00:60	12	17:00	•
51	55	ဇ	ന	ო	τ-	0	4	₹-	4	o	15	7	0	2	~	-	-	-	8	12	ဇာ	က	-	0	0	78	2.7%	00:60	15	18:00	•
46	20	12	က	4	Φ	-	_	5	12	12	15	7	_	00	ð	12	10	6	20	30	ထ	က	7	7	2	189	9.9%	00:60	15	18:00	•
41	45	80	2	9	7	-	4	o	=	28	28	54	34	39	53	26	52	48	36	4	38	4	21	#	3	602	21.0%	10:00	54	14:00	
36	40	10	-	7	2	က	4	თ	4	31	33	72	99	80	101	166	77	72	57	4 4	51	47	29	1	က	995	34.7%		72	14:00	•
31	32	œ	4	-	-	-	ო	ო	9	4	31	52	51	45	54	132	38	4	27	23	32	18	^	2	-	588	20.5%	10:00	25	14:00	907
56	8	80	7	0	0	_	_	7	4	7	9	9	တ	10	17	26	Q	G	တ	18	~	9	-	2	o	160	5.6%	11:00	တ	14:00	Š
21	25	0	0	_	0	0	0	0	0	က	_	-	က	4	2	4	2	က	က	7	—	-	-	0	٥	35	1.1%	00:80	က	12:00	•
16	20	-	-		0	0	0	0	0	-	ę,	2	7	-	-	ម	0	0	က	'n	_	2	0	0	0	31	1,1%	00:60	2	14:00	
-	15	<u></u>	-	0	0	0	0	0	-	0	9	5	က	က	10	4	10	თ	2	S.	0	0	Φ	0	0	73	2.5%	00:60	မ	14:00	•
Start	Lime	04/06/14	01:00	02:00	03:00	04:00	02:00	00:90	00:20	08:00	00:60	10:00	11:00	12 PM	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total	Percent	AM Peak	Vol.	PM Peak	1.7.1

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95th	Percent	5.	46	46	26	46	46	46	47	45	43	*	*	*	•	*	*	*	*	*	*	*	*	*	*										
85th	Percent	51	46	46	26	46	45	4	4	42	40	*	*	*	*	*	*	*	*	*	*	*	*	*	*										
	Total	က	2	_	7	7	œ	32	98	261	298	×	*	٠	٠	•	٠	*	*	*	٠		*	*	•	695		00:60	298		31162				
76	666	٥	٥	0	0	0	0	0	0	0	0	*	*	*	*	*	٠	*	*	*	*	O.T.	5	*	÷	0	%0.0				0	%0.0			
71	75	0	0	0	0	0	0	0	0	0	-	*	*	*	*	*	*	*	*	*	*	*	*	*	*	-	0.1%	00:60	_		628	2.0%			
99	70	0	0	0	0	0	0	0	0	0	0	*	*	*	*	*	*	*	¥	*	*	*	*	*	*	0	%0.0				349	1.1%			
61	65	0	0	0	0	0	0	0	0	0	0	*	*	*	*	*	٠	٠	٠	æ.	*	æ.	•	e.	*	0	0.0%				429	1.4%			
26	90	0	0	0	-	0	0	0	0	0	0	•	•	٠	•	*	*	٠	٠	٠	*	*	•	•	*	-	0.1%	03:00	1		517	1.7%			
51	52	-	0	0	0	0	0	0	~	4	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	9	%6.0	08:00	4		640	2.1%			
46	20	0	_	-	0	_	-	ო	2	က	4	*	*	*	*	*	*	*	*	*	*	*	*	*	*	19	2.7%	00:20	5		1205	3.9%			
4	45	2	0	0	_	~	ß	11	26	49	56	*	4	•			*	٠	٠	٠	٠	*	*	•	•	121	17.4%	08:00	49		4939	15.8%			
36	40	0	_	0	0	0	0	=	31	109	11	*	*	**	٠		*	*	•	٠	•	*	*	Q.	©	263	37.8%	00:60	111		9993	32.1%			
31	35	0	0	0	0	0	7	ťΩ	15	59	86	*	*	€:	*	*	*	*	*	*	*	*	*	*	*	179	25.8%	00:60	98		6809	21.9%	29 MPH 37 MPH 45 MPH	59 MPH	31-40 MPH 16802 53.9% 25509 81.9% 37 MPH
56	30	0	0	0	0	0	Φ	_	ς	17	37	*	*	*	*	*	*	*	*	*	*	*	*	*	*	99	8.6%	00:60	37		3252	10.4%		 ø	
21	25	0	0	0	0	0	0	0	0	9	12	*	*	¥ô		40		*	*	ŀ	٠	•	*	ŭ.	•3	138	2.6%	00:60	12		1108	3.6%	15th Percentile 50th Percentile 85th Percentile	95th Percentile	10 MPH Pace Speed Number in Pace Percent in Pace of Vehicles > 30 MPH of Vehicles > 30 MPH Mean Speed(Average)
16	20	0	0	0	0	0	0	0	0	9	က	*	*	*0	٠	e:	٠	*	*	٠	٠	•	*	3	*	6	1.3%	08:00	9		519	1.7%	15 50 85 85	951	10 MPH Pace Speed Number in Pace Percent in Pace Number of Vehicles > 30 MPH Percent of Vehicles > 30 MPH Mean Speed(Average)
~	15	0	0	o	0	0	Φ	۲-	က	∞	မှ	*	*	*	*	*	*	*	*	*	*	*	*	*	*	92	2.6%	08:00	œ		774	2.5%			Number Percent
Start	Time	04/07/14	01:00	02:00	03:00	04:00	02:00	00:90	02:00	08:00	00:60	10:00	11:00	12 PM	13:00	14:00	15:00	16:00	17:00	18:00	19-00	20:02	21:00	22:00	23:00	Total	Percent	AM Peak	Vol.	PM Peak Vol.	Total	Percent			Stats

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95th	Percent	*	*	*	*	*	•	*	*	*	*	*	45	22	49	20	46	47	47	49	48	48	47	47	49						
85th	Percent	*	*	*	*	*	*	*	*	*	*	*	42	4	4	45	43	43	43	42	42	42	42	43	44						
	Total	*	٠	٠	*	*	٠	٠	•	*	9	٠	163	262	178	194	204	245	181	146	138	111	113	95	48	2047		11:00	163	12:00	262
92	666	*	ž.	S.T	•	*	*	*	٠	•	*	*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%				
7	75	*	*	*	*	*	*	*	*	*	*	*	0	-	0	0	0	0	0	0	0	0	0	_	0	2	0.1%			12:00	
99 1	20	*	*	*	*	*	*	*	*	*	*	*	0	0	-	0	0	0	0	0	0	0	0	0	0	-	%0.0			13:00	-
9	65	*	*	*	*	*	*	*	*	*	*	*	0	-	0	Φ	-	0	0	0	0	0	0	0	0	2	0.1%			12:00	-
20	09	*	*		÷2	•	•	*	*	٠	٠	•	က	က	_	-	0	-	0	-	0	0	0	0	0	10	0.5%	11:00	3	12:00	ď
5	22	*	*	*	¥.	•	÷	*	*	٠		٠	7	∞	Ω	7	က	ņ	4	ო	4	4	7	0	_	48	2.3%	11:00	2	12:00	œ
4	20	*	*	*	*	*	*	*	*	*	•	*	es	18	12	17	∞	7	œ	10	o	4	7	4	ഹ	116	5.7%	11:00	3	12:00	ć.
4 ,	45	*	٠	*	*	3	*	٠	٠	*	•	٠	74	28	29	33	4	39	34	12	12	15	13	7	4	295	14.4%	11:00	24	15:00	41
99,	40	*	٠	*	*	*	•	*		*	*		25	80	25	64	70	74	64	52	38	40	35	23	13	659	32.2%	11:00	22	12:00	80
بع ڊ	35	* [٠	٠	*	*	×	•	٠	*	*	*	4	82	25	45	59	29	4	49	52	26	43	17	19	599	29.3%	11:00	41	12:00	85
, se	30	*	*	*	*	*	*	*	*	*	*	*	19	29	20	18	18	35	22	16	20	21	15	S	2	243	11.9%	11:00	19	16:00	35
2 5	Ç 2	*	*	*		*		ં	÷		*	*	o	7	2	ις	က	4	2	က	က	~	-	0	1	98	1.8%	11:00	6	14:00	LC:
9 5	70	* (٠	٠		*	*	•	•3	٠	*	*	-	ო	က	7	0	7	0	0	0	0	0	0	0	1	0.5%	11:00	-	12:00	m
← Ļ	<u>C</u>	*	*	*	*	*	*	*	*	*	*	*	4	4	~	7	~	7	က	0	O	0	0	က	o	25	1.2%	11:00	4	16:00	7
Start	= E	03/30/14	01:00	05:00	03:00	04:00	02:00	00.90	07:00	08:00	00:60	10:00	11:00	12 PM	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total	Percent	AM Peak	Vol.	PM Peak	Vol

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95th	Percent	02	51	71	71	99	62	64	22	56	42	45	43	45	48	47	47	44	47	47	53	62	62	29	70						
85th	Percent	57	40	26	71	4	61	47	47	4	38	39	39	40	4	40	39	39	40	40	4	49	51	09	55						
	Total	29	24	15	က	9	15	67	146	181	145	167	138	210	218	232	336	302	352	297	240	200	222	122	6	3758		08:00	181	17:00	352
9/	666	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	%0.0				
71	75	က	0	7	_	0	_	0	က	-	_	0	_	_	0	0	0	-	2	-	4	က	4	7	က	34	%6.0	00:00	က	19:00	4
99	70	-	O	0	Φ	_	0	2	7	ო	0	-	0	0		0	0	0	0	-	0	4	4	∞	2	30	0.8%	08:00	က	22:00	oc
6	65	2	_	0	0	0	2	2	_	7	0	0	0	0	0	0	0	0	-	0	က	7	7	60	2	38	1.0%	00:00	2	22:00	α
20	90	4	o	-	Φ	0	o	2	က	4	0	0	0	-	7	0	7	0	0	4	ო	വ	ဖ	က	3	43	1.1%	00:00	4	21:00	Œ
5	22	ო	-	-	0	0	0	-	7	က	0	7	_	ო	-	ო	9	7	4	ស	7	ω	13	4	2	77	2.0%	02:00	7	21:00	13
46	20	2	-	0	0	0	0	9	6		7	4	ო	ιΩ	1	14	7	œ	15	7	15	1	13	τū	3	158	4.2%	00:20	တ	17:00	7
4	45	5		0	_	_	ო	7	77	ආ	œ	10	7	17	19	12	4	21	23	23	22	17	27	19	3	294	7.8%	00:20	21	21:00	77
99	40	7	7	S	0	0	0	φ	26	32	20	4	28	99	54	20	49	52	22	64	61	46	47	24	20	808	21.5%	10:00	41	17:00	77
31	35	15	5	က	0	_	4	12	22	31	40	46	48	29	8	72	82	82	114	65	65	46	51	22	13	066	26.3%	11:00	48	17:00	114
56	30	σo	7	က	-	ო	5	13	35	32	43	42	33	26	40	4	74	98	74	65	45	38	42	20	7	787	20.9%	00:60	43	16:00	86
21	25	7	0	0	0	0	0	4	10	2	13	15	∞	9	-	1	45	19	19	20	10	တ	က	က	-	22.1	2.9%	09:00	18	15:00	45
9	20	0	-	0	0	0	0	က	_	4	∞	က	ო	9	2	9	74	-	12	15	4	7	2	ო	0	120	3.2%	08:00	14	15:00	24
- !	15	o	o	o	0	0	0	ო	9	22	10	က	φ	ထ	ო	က	23	20	_	27	4	4	ന	-	-	158	4.2%	08:00	22	18:00	27
Start	Time	04/01/14	01:00	05:00	03:00	04:00	02:00	00:90	00:20	08:00	00:60	10:00	11:00	12 PM	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total	Percent	AM Peak	Vol.	PM Peak	Vol.

95th	Percent	71	52	99	46	5	53	72	68	52	20	20	5	45	47	20	48	46	45	53	58	56	64	20	65						
85th	Percent	47	49	56	42	20	20	62	48	45	40	43	43	43	42	44	4	14	40	44	48	47	47	47	25						
	Total	44	24	19	တ	12	27	46	153	237	183	178	190	211	239	238	360	290	371	319	243	172	234	136	64	3999		08:00	237	17:00	371
9/	666	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%				
71	75	ဗ	0	0	0	0	-	4	9	~	0	-	2	ო	2	2	_	0	0	5	4	2	∞	7	-	53	1.3%	07:00	စ္	21:00	80
99	70	2	_	7	o	0	0	τ-	ო		0	•	2	-	2	2	7	0	0	0	~	9	က	7	2	34	%6.0	00:20	က	20:00	ဖ
61	65	2	0	0	0	-	Φ	4	Φ	7	0	0	ო	4	0	-	-	0	-	7	ιΩ	0	2	ო	1	32	%8.0	00:90	4	19:00	5
26	9	0	0	7	0	0	0	0	-	4	4	2	7	2	0	-	_	7	0	9	œ	2	က	က	3	46	1.2%	08:00	4	19:00	∞
57	55	0	7	0	o	_	m	2	7	∞	5	4	9	9	4	9	IJ	က	4	80	6	7	7	2	5	104	2.6%	08:00	8	19:00	6
46	20	2	S	-	_	_	~	-	15	16	9	13	7	80	7	16	16	13	13	18	18	16	18	9	7	224	2.6%	08:00	16	18:00	18
4	45	00	4	_	7	_	_	5	19	5 6	10	16	19	22	32	24	27	30	25	28	31	25	25	26	8	415	10.4%	08:00	26	13:00	32
36	40	7	က	9	_	-	9	Φ	36	34	25	31	45	49	45	65	49	69	98	62	62	47	53	32	16	877	21.9%	11:00	45	17:00	86
31	35	1	2	2	2	7	_	7	21	45	39	48	44	53	59	7.	2.2	82	93	96	25	58	64	31	6	945	23.6%	10:00	48	18:00	96
56	30	7	4		2	Ð	10	12	25	25	45	37	4	8	25	37	06	54	92	40	4	31	40	16	17	767	19.2%	08:00	52	15:00	06
2	25	2	ო	Φ	-	0	ო	_	10	23	8		Q	12	23	ည	4 0	18	30	12	_	ည	9	4	-	254	6.4%	00:60	28	15:00	49
9	20	0	0	0	o	0	-	0	က	£	9	4	5	00	9	-	13	7	16	∞	က	0	4	7	0	98	2.5%	08:00	11	17:00	16
← !		0	o	0	0	0	0	0	7		15		ဆ	တ	7		7				က	2	-	0		150	3.8%	00:60	15	17:00	27
Start	Time	04/02/14	01:00	02:00	03:00	04:00	02:00	00:90	00:20	08:00	00:60	10:00	11:00	12 PM	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total	Percent	AM Peak	Vol.	PM Peak	Vol.

95th	Percent	56	7	65	51	46	25.0	62	55	50	48	45	48	47	46	40	42	40	47	52	53	9	24	99	28						
85th	Percent	46	26	52	50	36	57	50	45	4	4	4	4	40	40	38	37	38	4	43	44	48	48	47	49						
	Total	47	23	2	4	4	15	06	140	189	190	173	148	214	218	254	306	324	346	287	223	187	209	101	74	3746		00:60	190	17:00	346
9/	666	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	%0.0				
71	75	0	7	0	0	0	_	_	2	2	_	0	0	0	0	0	-	₹~	0	7	0	4	က	က	ო	56	%2'0	01:00	5	20:00	4
99	20	2	0	-	0	0	0	_	_	7	0	0	0	0	0	0	0	0	0		-	0	7	ო	-	15	0.4%	00:00	7	22:00	က
61	65	0	0	~	0	0	0	က	0	-	0	0	0	0	0	0	0	-	-	_	က	ĸ	က	0	0	19	0.5%	00:90	က	20:00	5
56	90	-	2	0	0	0	က	_	4	က	ဗ	_	4	က	0	0	0	0	0	9	4	က	4	-	3	46	1.2%	07:00	4	18:00	9
51	55	_	က	7	-	0	0	က	4	~	2	က	-	ဇ	-	_	2	2	4	ω	60	10	တ	ιΩ	က	77	2.1%	02:00	4	20:00	2
46	20	4	7	0	-	-	2	5	∞	7	10	4	7	o,	7	7	വ		20		6			7	က				10	17:00	20
4	45	9	_	0	0	0	က	9	16	15	17	21	13	15	20	ß	=	10	59	32	30	4	21	1	10	309	8.2%	10:00	21	18:00	32
36	40	∞	ည	7	0	_	-	17	56	35	48	54	46	29	72	52	4 4	63	66	65	92	46	54	27	20	912	24.3%	10:00	54	17:00	66
33	35	15	4	7	•	_	2	Ξ	3	42	48	54	4	69	65	80	75	108	84	78	27	56	51	24	14	1022	27.3%	10:00	54	16:00	108
5 6	30	တ	4	7	_	<u>_</u>	ო	ĸ	22	42	29	24	25	32	33	33	56	61	56	4	33	30	35	16	14	209	16.2%	08:00	42	16:00	61
<u>.</u>	25	0	0	0	0	0	0	က	11	:5	t t	4	4	Ξ	-	9	S S	Q	2.4	<u>,</u>	2	1	5	7	2	238	6.4%	08:00	22	15:00	43
9 ;	50	-	0	0	0	0	0	-	4	4	rc.	2	_	7	7	18	33	17	12	7	ဖ	က	2	_	+	126	3.4%	00:60	5	15:00	33
-	15	0	0	0	0	0	O	က	2	13	12	9	9	1	က	27	36	50	17	15	ည	_	_	-	0	182	4.9%	08:00	13	15:00	36
Start	Time	04/03/14	01:00	02:00	03:00	04:00	09:50	00:90	00:20	08:00	00:60	10:00	11:00	12 PM	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total	Percent	AM Peak	Vol.	PM Peak	Vol.

95th	Percent	63	72	51	6	51	46	22	99	52	54	64	55	49	75	49	53	52	54	63	09	99	58	62	62			!			
85th	Percent	55	63	36	4	20	38	25	46	4	43	48	4	43	45	42	43	4	4	49	47	53	49	51	53						
	Total	73	42	∞	တ	7	<u>0</u>	29	145	204	185	183	224	325	331	331	382	426	443	313	216	142	132	109	81	4386		11:00	224	17:00	
9/	666	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	%0.0				
71	75	2	4	0	٥	Φ	0	_	ю	0	ιή	2	2	က	က	7	ဖ	ო	7	80	IJ	2	7	5	2	69	1.6%	07:00	Ŋ	18:00	
99	70	-	7	0	0	0	0	0	9	2	7	9	7	2	7	-	0	m	7	9	7	φ	_	0	1	47	1.1%	00:00	9	18:00	
61	65	4	က	0	-	0	0	-	0	0	0	က	က	ဗ	5	-	0	ιĊ	ဗ	ဗ	4	2	2	2	3	48	1.1%	00:00	4	13:00	
56	90	4	4	0	0	0	τ-	က	7	ဗ	_	g	4	ღ	က	က	∞	4	5	œ	က	80	5	2	4	84	1.9%	10:00	9	15:00	
51	55	-	_	_	0	-	0	2	က	\$	ល	S.	7	က	17	9	∞	တ	15	4	10	φ	ιO	œ	ည	143	3.3%	08:00	8	13:00	
46	20	2	0	0	0	_	-	9	0 0	1	0	10	∞	13	20	21	19	⊱	21	26	12	1	19	O	12	270	6.2%	08:00	11	16:00	
4	45	9	_	0	τ-	0	-	9	22	27	17	21	34	39	34	56	35	47	22	37	8	50	တ	4	6	492	11.2%	11:00	34	17:00	!!!
36	40	19	9	-	2	-	ო	17	32	47	42	37	47	65	69	20	25	02	88	63	8	24	31	19	17	860	19.6%	08:00	47	17:00	
3	35	4	დ	ო	-	_	∞	S	26	33	37	42	53	74	88	75	76	76	98	26	20	30	59	26	4	912	20.8%	11:00	53	13:00	
56	30	19	5	ღ	2	2	7	0 0	22	37	4	32	47	68	55	71	79	103	77	62	49	31	23	18	8	872	19.9%	11:00	47	16:00	
21	25	_	_	0	0	-	က	က	12	1 8	17	-	10	21	22	24 4	89	ξ. 1	4	16	œ	2	S	2	3	303	%6.9	08:00	18	15:00	•
16	20	0	0	0	_	0	0	_	7	9	-	5	က	10	4	Φ	70	চ	16	က	7	0	0	_	က	102	2.3%	08:00	. 9	15:00	•
- !	15	0	0	0	_	Φ	0	0	က	12	œ	10	4	21	တ	22	31	19	27	7	က	0	_	0	0	184	4.2%	08:00	12	15:00	•
Start	Time	04/04/14	01:00	02:00	03:00	04:00	02:00	00:90	00:20	08:00	00:60	10:00	11:00	12 PM	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total	Percent	AM Peak	Vol.	PM Peak	

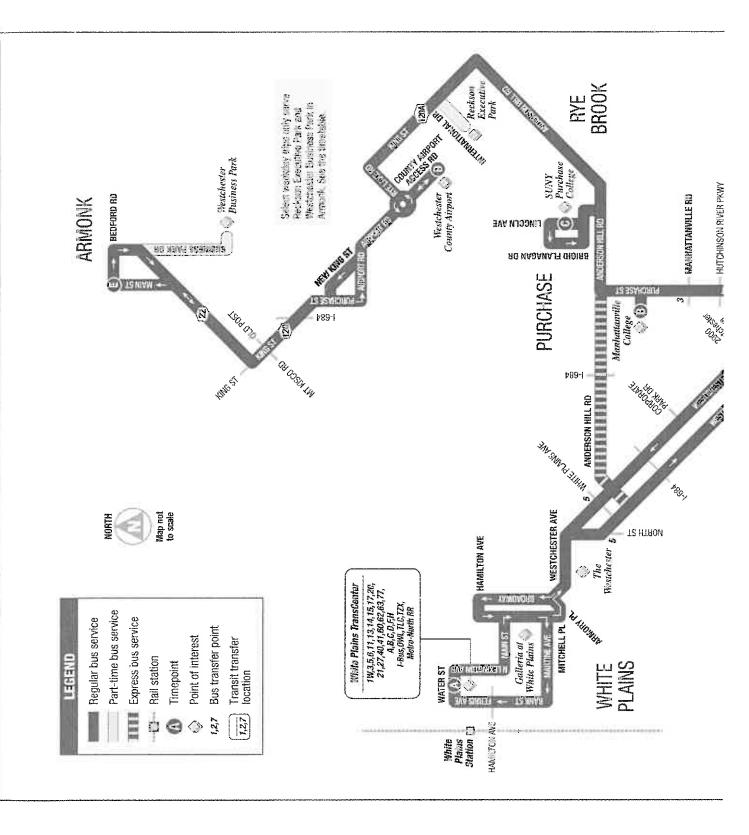
95th	Percent	57	70	7.	65	67	67	6	70	57	53	46	40	38	4	48	48	52	53	53	49	50	20	48	58						
85th	Percent	47	20	75	42	99	22	47	53	43	4	39	32	59	37	4	4	4	43	42	43	46	44	41	4	<u> </u>					
	Total	မွ	27	8	9	4	20	8	93	108	172	243	229	234	233	213	204	225	172	122	129	97	139	254	121	3159		10:00	243	22:00	254
76	666	٥	٥	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	%0.0				
71	75	٥	τ-	ო	0	0	· 	2	ო	7	2	0	0	0	0	0	-	-	~	2	4	0	7	0	2	27	0.9%	02:00	က	19:00	4
99	20	-	-	_	-	ო	7	0	_	_	_	0	0	o	_	Φ	-	Φ	-	_	0	0	0	7	_	19	0.6%	04:00	ო	22:00	c
9	65	-	0	-	-	0	0	-	4	-	0	7	0	- -	0	7	0	0	0	_	-	2	0	0	2	20	%9'0	07:00	4	14:00	٥
20	9	က	Ф	Φ	0	-	0	0	-	က	4	က	O	0	0	0	7	က	ო	7	0	0	7	0	4	31	1.0%	00:60	4	23:00	4
21	55	က	7	4	0	-	7	0	၉	4	4	7	-	o	-	4	8	7	თ	ღ	0	က	8	9	5	71	2.2%	02:00	4	16:00	7
46	20	4	5	_	0	-	-	4	4	-	12	9	0	0	7	10	10	15	S	Φ	9	7	11	17	10	141	4.5%	00:60	12	22:00	17
4	45	10	4	5	2	7	2	5	8	Ξ	4	14	10	က	16	18	18	22	15	13	17	80	22	1 5	1	265	8.4%	00:60	14	16:00	22
39	40	20	4	7	က	-	4	9	15	35	40	27	12	17	15	40	44	9	4	20	20	12	20	25	16	501	15.9%	00:60	40	16:00	90
بر ا	35	16	က	S	හ	2	2	4	10	21	52	34	17	9	11	76	99	62	37	56	17	25	8	49	28	602	19.1%	00:60	52	14:00	92
5 0	30	9	ιΩ	9	0	ო	က	9	7	17	56	39	33	4	47	30	38	59	19	18	35	28	36	84	32	588	18.6%	10:00	39	22:00	2
हें.	25	_	2	0	0	0	က	0	က	රා	2	72	1 9	124	131	16	11	4	27	24	6	7	9	37	7	586	18.6%	11:00	100	12:00	124
(2	20	-	0	_	0	0	0	2	0	က	4	27	45	36	22	œ	4	7	o	o o	4	_	7	9	2	193	6.1%	11:00	45	12:00	36
← !	15	o	0	0	0	0	0	0	0	က	œ	17	7	7	7	တ	۲	-	7	က	စ	0	2	17	_	115	3.6%	10:00	17	22:00	17
Start	Time	04/05/14	01:00	02:00	03:00	04:00	02:00	00:90	00:20	08:00	00:60	10:00	11:00	12 PM	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total	Percent	AM Peak	Vol.	PM Peak	\o No

95th	Percent	99	59	65	29	51	72	99	72	29	20	54	51	47	46	20	20	54	45	55	63	63	71	71	72			l			
85th	Percent	49	55	53	65	20	71	09	24	45	4	45	43	40	40	44	45	44	38	47	20	48	53	54	68					:	
	Total	26	40	98	23	16	ර	21	53	71	63	74	145	302	225	152	227	265	297	234	171	158	116	98	55	2936		11:00	145	12:00	302
92	666	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	%0.0				
71	75	-	_	_	_	_	7	0	ĸ	0	~	~	~	~	0	0	0	5	0	4	4	7	7	5	9	49	1.7%	02:00	S	21:00	٨
99	20	2	0	-	2	0	0	2	2	0	0	0	0	0	0	0	_		_	4	က	4	τ-	က	4	34	1.2%	00:00	co.	18:00	4
61	65	-	-	_	2	0	_	-	-	က	0	0	2	0	0	7	-	-	0	-	~	4	က	က	0	36	1.2%	08:00	3	19:00	œ
20	90	က	4	2	0	0	0	_	0	က	0	7	0	 -	-	7	7	က	0	2	-	ဖ	7	0	1	36	1.2%	01:00	4	20:00	9
51	55	4	-	ო	0	-	0	2	4	0	7	ro.	5	4	2	4	7	10	7	12	ტ	4	Φ	13	2	105	3.6%	10:00	5	22:00	13
46	20	œ	2	ဗ	~	<u>_</u>	0	2	က	4	7	က	4	14	თ	10	17	12	Ξ	19	15	10	9	9	8	170	5.8%	00:00	80	18:00	19
4	45	7	ო	2	-	က	-	7	က	4	S.	12	23	16	22	54	40	29	16	24	18	17	16	10	ဗ	318	10.8%	11:00	23	15:00	4
36	40	13	16	9	9	2	_	4	10	80	4	15	4	81	71	47	77	75	38	61	34	59	28	22	10	869	23.8%	11:00	41	12:00	<u>8</u>
34	35	30	4	4	9	7	ო	4	12	13	တ	ო	26	111	63	26	4	73	69	42	46	4 5	56	17	17	692	23.6%	00:00	30	12:00	11
5 9	30	17	9	7	7	4	_	က	œ	15	0 0	က	9	25	20	10	o o	17	54	53	32	59	17	φ	က	355	12.1%	00:00	17	17:00	54
21	52	2	-	2	0	-	0	0	4	7	2	4	10	7	11	9	12	∞	~	9	0	7	٥	-	0	139	4.7%	09:60	Š	17:00	<u>\$</u>
9	20	7	-	7	2	-	0	0	-	က	ç	6	17	1	13	ဖ	7	17	17	2	_	-	0	0	o	127	4.3%	11:00	17	16:00	14
- !	15	0	0	0	0	0	0	0	0	_	4	7	\$	27	13	15	o	4	7	4	0	0	-	0	-	177	%0.9	11:00	10	17:00	71
Start	Time	04/06/14	01:00	02:00	03:00	04:00	02:00	00:90	02:00	08:00	00:60	10:00	11:00	12 PM	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total	Percent	AM Peak	Vol.	PM Peak	Vol.

American Traffic Information, Inc. 336 Pulaski Ave Staten Island, NY, USA 10303 718-447-5161

1 16 21 26 31 36 41 46 15 20 25 30 35 40 45 50	21 26 31 36 41 25 30 35 40 45	26 31 36 41 30 35 40 45	31 36 41 35 40 45	36 41 40 45	41		46		15 E	56	65	99	71	9/	⊢ P	85th Percent	95th
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0 1 0	1 0					_	0	7	-	7	_	0	•	0	10	22	61
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2 7 10 22	7 10 22	22	22			27	0	7	4	40	4	7	ø	0	125	56	72
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26 49 86 91	49 86 91	86 91	91		_	80	53	35	11	17	10	6	19	0	519		
5.0% 9.4% 16.6% 17.5%	9.4% 16.6% 17.5%	16.6% 17.5%	17.5%		15.	1%	10.2%	6.7%	2.1%	3.3%	1.9%	1.7%	3.7%	%0.0			
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18 15 23 37 30	23 37 30	37 30	30			27	19	11	4	5	4	က	O		161		
878 2021 4950 6761	2021 4950 6761	4950 6761	6761		Θ	6376	2812	1442	707	350	226	206	312	0	28179		
17.6% 24.0%	7.2% 17.6% 24.0%	17.6% 24.0%	17.6% 24.0%	п	22,6	%8	10.0%	5.1%	2.5%	1.2%	0.8%	0.7%	1.1%	0.0%			
15th Percentile: 26 MPH 50th Percentile: 34 MPH 05th December 1				26 MPH 34 MPH 44 MPH													
95th Percentile: 53 MPH				53 MPH													
				1004													
Number in Pace 13137	Number in Pace	24	24.	40 MPH 13137													
7720	7720	7720	7720	46.6%													
				68.1%													
Mean Speed(Average) : 35 MPH				35 MPH													

PUBLIC TRANSIT



	8 30 7 1 1 2 2 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	MORTHBOUND FROM WHITE PLAINS TO PURCHASE / SATURDAY	O PURCHASE / SATURDAY	The state of the state of
8	0	a	0	Θ
	TransCenter	Manhattanville	SUNY	Westchester
	() ? ? ?	College	Airport
V-20-1	WHITE PLAINS	COLUMN TANK	PURCHASE	N NOW AND LINE
AM	8:00	8:16	8:23	8:35
THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TO PE	9:20	9:36	9:43	9:55
	11:00	11:16	11:23	11:35
3	1220	12.38	2:43	, <u>7,</u>
	1:0		2:03	212
	3,00	9	3:23	3.35
	4:20	4:36	4:43	4:55
	5,40	5:55	6:03	6.13
	SOUTHE	SOUTHBOUMD FROM PURCHASE TO WHITE PLAINS / SATURDAY	THITE PLAINS / SATURDAY	
	Θ	8	@	6
	Westchester	SUNY	Manhattanville	TransCenter
	County	Purchase	College	(Lane B)
	Airport	College		
	The state of the s	PURCHASE	The state of the s	WHITE PLAINS
AM	8:40	8:53	8:59	9:15
	10:00	10:13	10:19	10:35
0.27	11:40	1.53	11,59	27.2
	1:00	9	\$ 7	1.35
	2:20	2:33	239	2,02
	3:40	3.53	3:59	\$1.52
	9; 6	<u></u>	₩. 6	1000
	Orac	6:33	6,38	CC5
	MORTH	NORTHBOUND FROM WHITE PLAINS TO PURCHASE / SUNDAY	TO PURCHASE / SUNDAY	W. C. St. March
	0	•	Θ	0
	TransCenter	Manhattanville	ANNS	Wesichester
	(Lane B)	College	Purchase	County
			College	Airport
	WHITE PLAINS	STATE OF STATE OF	PURCHASE	
AM	8:00	9.36	8:23	8:35
	07.E	9.30 44.46	(4.4.3)	96.6
	12:20	924	17.23	11.00.00.00.00.00.00.00.00.00.00.00.00.0
	1 - A.A.	- 6.2000	09.0	00'71
XX 19 19 19 19	2		C0.77	£1.7

SEASONAL ADJUSTMENTS

TRINITY PRESBYTERIAN CHURCH, 526-530 ANDERSON HILL ROAD, PURCHASE, NY - (#823.000) FIELD DATA SUMMARY - Seasonal Factors from NYSDOT Continuous Count Data

			Andei	erson Hill Roac	l between Wes	rson Hill Road between Westchester Avenue and NYS Route 120	e and NYS Rou	ıte 120			ı	
2011 ADT	January	February	March	April	May	June	ylnt	August	September	October	November	December
Eastbound	3,433	4,271	4,551	4,987	4,754	4,647	4,342	4,160	4,865	5.014	4.734	3.899
Westbound	2,989	3,733	3,988	4,402	4,132	4,068	3,976	3,743	4,518	4,612	4.368	3,573
Two-Way	6,422	8,004	8,539	9,389	8,886	8,715	8,318	7,903	9,383	9,626	9,102	7,472
Seasonal Adjustment	1.499	1.203	1.127	1.025	1.083	1.105	1.157	1.218	1.026	1.000	1.058	1.288

STATION:

STATE DIR CODE: 1

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Date: 10/05/2012

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STATION: 871012 ROAD NAME: ANDERSON HILL FROM: WESTCHESTER TO; SR 120 COUNTY: WESTCHESTER ROUTE/RD#: CR0180 DIRECTION: 3 East FACTOR GROUP: 40 TRAFFIC RECORDER SERIAL #: 0000 FUNCTIONAL CLASS: 16 TOWN: Harrison STATE DIR CODE: 1 WEEK OF YEAR: 52 PLACEMENT: NHS: No BIN: 1044760-1 @ REF MARKER: RR CROSSING#: DATE OF COUNT: 01/01/2011 JURISDICTION: County HPMS Sample ID: 69087010 COUNT TYPE: Vehicle Count COUNT TAKEN BY: DGV NOTES: TO 11 TO 10 TO 12 TO TO TO TO TO 9 то ΤO TO 5 DAILY HIGH TOTAL COUNT HOUR DATE <u>DAY</u> ΡМ 13:00 15:00 08:00 Μ 08:00 249 25 97 08:00 116 08:00 08:00 7 11 15:00 13:00 26 307 172 220 265 253 16 08:00 08:00 13:00 45 08:00 178 168 197 156 144 135 92 08:00 117 S 17 17 19 15:00 15:00 15:00 226 236 225 237 230 260 235 228 15 08:00 08:00 W 08:00 09:00 31 15:00 24 10 14:00 08:00 08:00 247 08:00 17:00 08:00 15:00 S 14:00 351 598 404 275 252 295 307 325 332 317 338 08:00 AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon) ADT 7 13 31 120 264 391 264 199 200 209 211 232 247 241 231 197 120 ESTIMATED (one way) WEEKDAYS Counted WEEKDAY HOURS AVERAGE WEEKDAY Hours of Day HOURS Counted Axle Adj. Factor DAYS Counted ROUTE/RD #: CR0180 ROAD NAMEANDERSON HILL R FROM: WESTCHESTER TO:SR 120 COUNTY: WESTCHESTER

PLACEMENT:

Page

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STATIO	N: 871012	2																										
ROUTE/	RD#: C	R0180		ROA	AD NA	ME:	AND	ERSC	N HII	L FR	OM:	WES	STCH	ESTE	R.): SR						CO	UNTY: 1	WESTC	HESTER
DIRECT	ION: 7	West		FACT	TOR G	ROU	P: 4)	TR	AFFIC	REC	ORD	ER SI	ERIAL	#: 00	00		Fί	JNCT	IONAL	_ CLA	SS:	16		-	FOWN: I	Harrison	
STATE [DIR CODE	: 2		WEE	K OF	YEAR	: 5	2	PL	ACEM	ENT:							NF	IS:	No						BIN:	1044760)-1
DATE Ó	F COUNT	: 01/01/	2011						@	REF I	/ARK	ER:						JU	RISD	ICTIO	N:	Count	ty	RR C	ROS	SING#:		
NOTES:				C	TNUC	TYPE	: Ve	hicle (Count									CC	TNUC	TAKE	N BY	:DG\	Ĭ	HPM:	S Sam	ple ID: (908701	0
		12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11		DAILY	DAILY
		TO	TO 2	TO 3	TO 4	TO 5	TO 6	TO 7	7 O 8	TO 9	TO 10	TO 11	TO 12	TO 1	TO 2	TO 3	TO 4	TO 5	TO 6	TO 7	TO B	TO 9	TO 10	TO 11	TO 12	DAILY	HIGH	HIGH
DATE	DAY	,	2	3	7	J	U	,	U	3	10	• • •	12		2	3	7	J	٠	1	Ų	•	10	• • •	12	TOTAL	COUNT	HOUR
DAIL	PAI						AM							T					PM								_	
1	s	33	26	20	7	8	5	6	12	29	33	43	68	87	90	107	112	80	51	68	47	45	33	27	27	1064	112	15:00
2	S	11	10	2	4	4	4	11	20	29	52	79	89	139	114	114	114	84	83	55	40	37	37	24	19	1175	139	12:00
3	M	9	7	3	4	6	10	41	82	181	142	129	164	190	189	201	247	241	268	177	94	91	57	37	19	2589	268	17:00
4	Т	10	8	7	5	6	11	50	112	188	143	146	135	175	169	195	253	287	407	218	160	88	58	42	30	2903	407	17:00
5	W	6	7	5	5	3	11	42	115	209	120	140	179	182	204	211	281	307	406	273	150	101	71	47	28	3103	406	17:00
6 7	T	12 22	6 5	5	4	6	10	47	123 86	215 168	160 133	136	170 167	183 174	187 151	213 149	294 155	321 163	393	272 124	153 82	106 47	67 42	55 40	29 33	3167 2101	393 174	17:00 12:00
8	S	13	5 6	4	4 5	4	1 4 5	41 22	46	72	117	147 118	161	161	158	166	209	153	141 114	118	64	56	51	64	110	1997	209	15:00
9	s	76	19	11	13	6	6	- 8	24	42	70	100	140	200	171	143	144	136	120	85	59	60	42	26	18	1719	200	12:00
10	M	11	2	2	2	6	12	48	117	200	201	145	166	195	224	198	314	323	404	288	121	91	75	39	27	3211	404	17:00
11	T	6	6	4	4	5	13	50	118	198	169	163	182	182	207	176	270	319	460	258	142	100	73	30	22	3157	460	17:00
12	W	20	7	3	6	13	23	30	31	42	37	52	62	76	72	97	110	121	95	71	43	50	42	31	11	1145	121	16:00
13	T F	13	8	2	6	2	18	49	129	193	135	159	177	165	182	218	284	313	400	274	193	115	102	52	31	3220	400	17:00
14 15	S	13 16	13 8	6	3 6	5 5	15 2	44 19	113 44	213 71	143 117	166 124	186 136	201 137	187 160	223 155	293 153	281 139	374 109	222 99	122 87	110 90	91 74	58 62	34 81	3117 1900	374 160	17:00 13:00
16	S	28	15	6	12	4	10	11	19	39	67	97	121	171	144	137	150	130	102	90	58	68	36	27	24	1566	171	12:00
17	M	6	8	5	4	5	6	26	63	95	103	103	147	163	147	182	192	169	171	125	73	68	45	36	18	1960	192	15:00
18	Т	7	7	6	12	8	17	37	78	105	106	95	109	113	130	143	174	187	262	233	120	77	75	42	19	2162	262	17:00
19	W	8	5	5	1	3	20	42	135	199	158	149	187	171	193	195	283	300	408	275	169	126	95	56	28	3211	408	17:00
20	Ţ	9	5	2	4	3	12	46	116	184	165	175	195	171	166	197	312	318	412	302	172	108	97	66	32	3269	412	17:00
21 22	F S	12 19	7 11	7 5	17 6	21 8	23 14	69 15	65 60	92 87	105 88	135 139	173 150	145 189	172 180	167 181	226 154	248 164	303 122	192 127	105 109	81 76	69 63	60 64	41 71	2535 2102	303 189	17:00 12:00
23	S	38	27	3	6	3	7	5	30	38	67	123	174	208	196	175	201	170	152	86	65	75	69	54	26	1998	208	12:00
24	М	16	5	3	3	5	17	43	111	200	168	155	193	190	230	230	305	363	468	330	220	158	154	79	36	3682	468	17:00
25	Т	15	12	4	5	6	16	49	105	180	189	148	172	231	255	278	368	359	488	357	212	181	186	75	59	3950	488	17:00
26	W	32	17	12	11	5	12	48	127	213	146	152	190	227	216	208	307	261	228	127	84	55	45	37	15	2775	307	15:00
27	T	9	8	5	8	9	21	31	26	53	77	85	128	158	172	187	214	299	340	266	181	153	148	77	43	2698	340	17:00
28	F	31	15	12	4	7	17	55	129	222	167	209	239	233	288	333	360	459	459	308	180 138	162 154	92	88 134	59 92	4128 3071	459 281	16:00 15:00
29 30	S S	57 40	35 41	37 31	23 26	8 8	13 7	27 15	56 31	108 66	127 60	177 143	237 172	209 218	205 226	241 203	281 227	212 270	204 252	181 144	100	93	115 81	54	42	2550	270	16:00
31	M	19	7	9	3	4	7	56	96	230	170	183	201	254	238	295	331	409	503	431	224	232	189	77	49	4217	503	17:00
•				-	-			Δ٧/								l, Mon	SAM 1	o Eri N	doon									
		14 9		8	6	7	16						•	78 18		Q1 20			io 25	2 14	8 11	2 9	3	52 2	9	ADT	29	
DAYS	S Counted	HOUR	S Cour	nted	WEE	KDAYS	Cour	ted	WEEK	DAY H	ours	AV	ERAG	WEEK			Axle A	dj. Faci	tor							ESTIMAT	ED (one	e way)
	31	74		_	C	21			(56)	426	rai	High I 360			% of [1.00	0									
ROUTE/	RD#: CRO	0180		RO	AD N	AMEA	NDE	RSON	HILL	R	FRO	M: WI	STC	HEST	ER				O:SR	120					CO	UNTY: V	VESTC	HESTER
MOITATS	N: 871	012	ST	ATE !	DIR C	ODE:	2				PLA(CEME	NT:											DATE	OF C	OUNT: 0	1/01/20	11

Date: 10/05/2012 Page: 3 of 24

STATION: 871012 ROAD NAME: ANDERSON HILL FROM: WESTCHESTER TO: SR 120 COUNTY: WESTCHESTER ROUTE/RD#: CR0180 FACTOR GROUP: 40 DIRECTION: 3 East TRAFFIC RECORDER SERIAL #: 0000 FUNCTIONAL CLASS: 16 TOWN: Harrison STATE DIR CODE: 1 PLACEMENT: WEEK OF YEAR: 05 NHS: No BIN: 1044760-1 DATE OF COUNT: 02/01/2011 @ REF MARKER: JURISDICTION: County RR CROSSING#: HPMS Sample ID: 69087010 COUNT TYPE: Vehicle Count COUNT TAKEN BY: DGV NOTES: TO 11 TO TO 6 TO 7 TO 9 TO 10 TO 12 TO 5 **T**O TO DAILY TO 3 TO 2 ŤO ΤO ŤΟ TO 10 TO 4 TO 5 ŤΟ HIGH HIGH TOTAL COUNT HOUR DATE DAY ₽N 08:00 17:00 3 W T 08:00 08:00 34 33 204 201 210 188 105 55 21 17 19:00 17:00 7 S 7 08:00 М 08:00 W 21 21 322 335 41 08:00 11 17 08:00 08:00 44 26 12:00 s 15 42 369 336 307 s 16:00 15 M T ĥ 08:00 08:00 08:00 29 45 08:00 37 39 F 08:00 S 15:00 17:00 343 17 08:00 08:00 W 08:00 00:80 s 17 123 15:00 14:00 S М 08:00

AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon) ADT 9 15 38 140 328 479 314 248 236 236 253 273 300 286 301 270 149 119 111 ESTIMATED (one way)
 WEEKDAYS Counted
 WEEKDAY HOURS
 AVERAGE WEEKDAY High Hour % of 479
 HOURS Counted _ Axle Adj. Factor **DAYS** Counted % of Day

ROUTE/RD #: CR0180 STATION:

ROAD NAMEANDERSON HILL R STATE DIR CODE; 1

PLACEMENT:

FROM: WESTCHESTER TO:SR 120

COUNTY: WESTCHESTER DATE OF COUNT: 02/01/2011

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STATION:

STATE DIR CODE: 2

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DATE OF COUNT: 02/01/2011

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STATION: 871012 ROAD NAME: ANDERSON HILL FROM: WESTCHESTER TO: SR 120 COUNTY: WESTCHESTER ROUTE/RD#: CR0180 FACTOR GROUP: 40 TRAFFIC RECORDER SERIAL #: 0000 FUNCTIONAL CLASS: 16 TOWN: Harrison DIRECTION: 7 West WEEK OF YEAR: 05 PLACEMENT: STATE DIR CODE: 2 NHS: No BIN: 1044760-1 @ REF MARKER: JURISDICTION: County RR CROSSING#: DATE OF COUNT: 02/01/2011 COUNT TAKEN BY: DGV HPMS Sample ID: 69087010 NOTES: COUNT TYPE: Vehicle Count TO 11 TO 11 TO 1 TO 12 TO TO TO TO TO TO 2 TO 5 TO TO Z TO TO. DAILY DAILY TO τo TO ŤΟ TO 9 TO 10 DAILY HIGH HIGH COUNT HOUR DATE DAY 16:00 4 277 W 17:00 17:00 10 17:00 13:00 \$ 438 16:00 51 16:00 15 23 34 17 17:00 17:00 W 17:00 50 57 207 16:00 12 17 12:00 s 12:00 s 17:00 М 17:00 17:00 W 35 17 17:00 16:00 22 11 15 79 15:00 21 12:00 17:00 17:00 57 17:00 17:00 16:00 15:00 s 16:00 17:00 AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon) ADT 52 115 186 157 167 199 221 208 260 304 369 413 331 186 174 ESTIMATED (one way) WEEKDAYS Counted WEEKDAY HOURS AVERA AVERAGE WEEKDAY **DAYS** Counted **HOURS** Counted , Axle Adj. Factor % of Day 1,000 ROUTE/RD #; CR0180 ROAD NAMEANDERSON HILL R FROM: WESTCHESTER TO:SR 120 COUNTY: WESTCHESTER

Page

Date: 10/05/2012

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STATION: 871012 ROAD NAME: ANDERSON HILL FROM: WESTCHESTER COUNTY: WESTCHESTER TO: SR 120 ROUTE/RD#: CR0180 DIRECTION: 3 East FACTOR GROUP: 40 TRAFFIC RECORDER SERIAL #: 0000 FUNCTIONAL CLASS: 16 TOWN: Harrison STATE DIR CODE: 1 WEEK OF YEAR: 09 PLACEMENT: NHS: No BIN: 1044760-1 @ REF MARKER: RR CROSSING#: DATE OF COUNT: 03/01/2011 JURISDICTION: County HPMS Sample ID: 69087010 COUNT TYPE: Vehicle Count COUNT TAKEN BY: DGV NOTES: TO 11 TO 12 OT TO 5 TO TO TO DAILY DAILY ΤO то ŤΟ ΤO DAILY TOTAL COUNT HOUR DATE <u>DAY</u> 08:00 08:00 W 00:80 Т 08:00 47 18 210 195 19:00 7 s 15:00 08:00 Μ 08:00 73 48 08:00 15 17 14 50 277 08:00 11 12 13 08:00 15:00 09:00 252 15 16 17 19 17 07:00 07:00 10 W 07:00 23 61 08:00 20 19:00 s s 14:00 08:00 39 18 26 08:00 24 ₩ T 08:00 08:00 08:00 24 13:00 14:00 S 08:00 М 08:00 W 08:00 Т 319 490 332 221 216 254 282 302 08:00 AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon) ADT 58 185 367 477 319 262 253 260 273 290 318 314 309 267 166 130 ESTIMATED (one way) WEEKDAYS Counted WEEKDAY HOURS AVERAGE WEEKDAY High Hour % of Day _ Axle Adj. Factor **DAYS Counted HOURS** Counted ROUTE/RD #: CR0180 ROAD NAMEANDERSON HILL R FROM: WESTCHESTER TO:SR 120 COUNTY: WESTCHESTER DATE OF COUNT: 03/01/2011 STATION: STATE DIR CODE:1 PLACEMENT:

STATE DIR CODE: 2

STATION:

New York State Department of Transportation Traffic Count Hourly Report

Date: 10/05/2012

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STATION: 871012 ROAD NAME: ANDERSON HILL FROM: WESTCHESTER ROUTE/RD #: CR0180 TO: SR 120 COUNTY: WESTCHESTER FACTOR GROUP: 40 TRAFFIC RECORDER SERIAL #: 0000 FUNCTIONAL CLASS: 16 TOWN: Harrison DIRECTION: 7 West STATE DIR CODE: 2 WEEK OF YEAR: 09 PLACEMENT: NHS: No BIN: 1044760-1 DATE OF COUNT: 03/01/2011 @ REF MARKER: JURISDICTION: County RR CROSSING#: HPMS Sample ID: 69087010 NOTES: COUNT TYPE: Vehicle Count COUNT TAKEN BY: DGV TO 11 TO 11 TO TO TO 10 TO TO TO TO TO TO 12 TO TO DAILY TO Ťο ŤΟ TO TO τo DAILY TO то ΤO DAILY COUNT HOUR DATE <u>DAY</u> 17:00 17 W 17:00 17:00 16:00 21:00 12 14 12:00 15 17:00 17:00 17:00 44 17:00 17:00 14:00 s 14 s 11:00 16:00 20 Α 16:00 17 W 16:00 7 17:00 213 216 188 s 14:00 15 17:00 ĥ 17:00 17:00 256 W 17:00 18 17:00 17:00 15:00 332 15:00 М 17:00 17:00 W 17:00 193 204 17:00 AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon) ADT 65 138 201 172 185 212 227 234 270 343 399 435 332 214 177 167 ESTIMATED (one way) AVERAGE WEEKDAY **DAYS** Counted **HOURS** Counted WEEKDAYS Counted WEEKDAY HOURS __ Axle Adj. Factor High Hour % of Day 1.000 35 ROUTE/RD #: CR0180 ROAD NAMEANDERSON HILL R FROM: WESTCHESTER TO:SR 120 COUNTY: WESTCHESTER DATE OF COUNT: 03/01/2011

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ROUTE/ DIRECT STATE [R0180 East : 1		FACT WEE	AD NA FOR G K OF T DUNT 3 TO	ROUI YEAR	P: 46	0 3 hicle (TR PL @	AFFIC ACEM REF I	REC	CORD	ER S		_#: 00	2 TO	3 TO	FI NI JL	D: SR UNCT HS: JRISD OUNT 5 TO	IONAI No ICTIC	N:	Count	-		ROS	FOWN: I BIN: SING#: nple ID: (Harrison 1044760 3908701 DAILY	0 DAILY
DATE	DAY	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL	HIGH	HIGH HOUR
							AM							<u>i </u>					РМ									
1	F	24	8	6	9	15	26	119	293	473	314	209	189	236	269	288	289	290	271	254	312	130	119	141	85	4369	473	08:00
2	S	35	23	25	27	9	20	68	98	213	173	189	215	272	256	253	265	197	213	248	214	123	137	111	103	3487	272	12:00
3	S	42	27	22	29	8	18	37	57	102	140	134	149	204	249	244	274	261	249	220	180	165	112	80	67	3070	274	15:00
4	M	23	14	8	11	13	35	156	345	529	408	320	246	269	315	312	355	331	326	320	177	134	127	67	45	4886	529	08:00
7	Ţ			4.00							391	302	248	256	292	380	402	361	327	343	222	170	146	90	64	5440	0.45	00.00
8	F	33	19	12	8	19	44	166	422	615	343	285	280	336	294	383	391	307	337	295	266	201	146	131	79	5412	615	08:00
9	S S	4 5	32 30	23	34 35	10 19	18 15	54 39	112	189	203	304	321 274	266 223	259 233	278 280	255 208	260 203	269	326 172	280 146	166 133	169 90	135 61	87 43	4095 3017	326 280	18:00 14:00
10	_	56		45 7	35 6				35 331	110 552	128 378	229 313	250	288	307	329	351	369	210 317	316	187	143	123	87	43 52	3017 4956	552	08:00
11 12	M T	26 23	13 16	7	8	18 14	41 43	152 153	366	568	390	285	219	299	247	304	367	345	344	351	170	136	136	80	61	4932	568	08:00
13	w	38	18	11	4	14	49	157	329	513	388	234	244	261	278	315	377	326	374	331	192	127	146	89	59	4874	513	08:00
14	T	33	16	16	9	18	38	158	368	544	359	305	283	264	288	344	380	365	394	377	214	179	123	101	69	5245	544	08:00
15	Ė	39	33	22	12	17	33	151	330	534	358	306	288	310	360	396	409	371	393	319	280	211	206	126	110	5614	534	08:00
16	s	52	37	27	22	10	21	65	120	242	215	222	197	279	265	273	264	236	223	223	242	127	145	135	77	3719	279	12:00
17	S	59	37	23	25	11	14	35	62	93	129	150	150	180	247	375	256	230	228	202	165	151	118	90	50	3080	375	14:00
18	M	37	16	10	7	14	30	163	331	515	340	278	265	282	311	322	321	375	335	295	138	106	130	102	46	4769	515	08:00
19	T	29	16	10	7	13	41	151	336	483	351	279	256	287	288	266	280	294	311	281	168	118	139	105	73	4582	483	00:80
20	W	48	24	13	9	16	40	145	319	490	314	254	268	278	316	314	307	335	316	341	203	124	150	84	77	4785	490	08:00
21	Т	43	18	15	11	9	34	156	366	490	331	316	271	328	329	318	310	376	337	340	211	159	163	113	71	5115	490	08:00
22	F	58	26	20	28	13	34	103	265	380	309	242	233	290	262	291	259	292	243	228	171	151	137	116	84	4235	380	08:00
23	S	37	33	29	25	13	16	58	74	113	109	134	143	178	191	203	17 1	184	158	155	123	104	114	82	79	2526	203	14:00
24	S	49	28	25	16	13	12	33	54	55	105	134	156	155	211	231	195	177	136	147	157	186	132	87	62	2556	231	14:00
25	M	28	17	10	7	16	52	158	346	563	354	292	285	326	276	343	373	370	369	328	182	124	124	86	47	5076	563	08:00
26	T	25	16	11	6	17	42	186	390	575	343	301	266	321	324	332	399	357	365	360	208	157	129	98	62	5290	575	08:00
27	W	34	27	25	12	15	47	165	370	612	375	269	289	279	319	352	387	355	431	322	207	156	145	88	55	5336	612	08:00
28	T	35	17	11	8	13	49	171	387	543	344	332	276	253	309	330	294	327	325	388	221	163	136	109	54	5095	543	08:00
29	F	34	27	18	18	15	50	151	369	510	387	319	295	356	307	376	374	375	352	279	275	194	153	139	112	5485	510	08:00
30	\$	72	42	31	20	16	25	83	164	310	220	253	273	311	326	334	315	292	286	241	289	167	151	131	121	4493	334	14:00
	6 Counted 28	35 21 HOUR.	S Cour			5 4 KDAYS		153 3	48 5	E WEI 27 3 DAY H 363	57 2	286 2	61 2 ERAGI Hour	85 30		26 3: Day	6AM 1 50 34 Axie A	19 34	48 33 tor	5 19	3 14	3 13	i7 <u>!</u>)3 (30 	ADT ESTIMAT	49 ED (one	87 e way)
ROUTE/	RD #; CR0	180		RO	AD N	AMEA	NDE	RSON	HILL	.R	FRO	M: W	ESTC	HEST	ER			T	0:SR	120					CO	UNTY: V	VESTC	IESTER
STATION			ST		OIR C							CEME												DATE		OUNT: 0		

Date: 10/05/2012

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STATION: 871012 ROAD NAME: ANDERSON HILL FROM: WESTCHESTER COUNTY: WESTCHESTER TO: SR 120 ROUTE/RD#: CR0180 DIRECTION: 7 West FACTOR GROUP: 40 TRAFFIC RECORDER SERIAL #: 0000 FUNCTIONAL CLASS: 16 TOWN: Harrison STATE DIR CODE: 2 WEEK OF YEAR: 13 PLACEMENT: NHS: No BIN: 1044760-1 @ REF MARKER: RR CROSSING#: DATE OF COUNT: 04/01/2011 JURISDICTION: County HPMS Sample ID: 69087010 COUNT TYPE: Vehicle Count COUNT TAKEN BY: DGV NOTES: TO 11 TO 1 TO 10 TO 12 TO TO TO TO ΤO ΤO ŤΟ TO 9 ΤO HIGH DAILY HIGH TOTAL COUNT HOUR DATE <u>DAY</u> 17:00 S 15:00 16:00 s 17:00 17:00 14:00 S 14:00 17:00 14 434 252 17:00 14 W 17:00 17:00 75 51 17:00 295 42 27 \$ 12:00 S M 17:00 16:00 17:00 21 31 237 356 507 266 W 35 17:00 22 17:00 16:00 12:00 13:00 18 М 17:00 17:00 17:00 17:00 F 9 16:00 s 12:00 AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon) ADT 17 53 122 203 188 195 231 269 249 284 351 416 495 390 257 200 219 106 ESTIMATED (one way) _ Axle Adj. Factor **DAYS Counted HOURS Counted**

WEEKDAYS Counted WEEKDAY HOURS AVERAGE WEEKDAY Hours % of Day

ROUTE/RD #; CR0180 STATION:

ROAD NAMEANDERSON HILL R STATE DIR CODE: 2

FROM: WESTCHESTER PLACEMENT:

TO:SR 120

COUNTY: WESTCHESTER DATE OF COUNT: 04/01/2011

Date: 10/05/2012

Page: 9 of 24

STATION: 871012 ROAD NAME: ANDERSON HILL FROM: WESTCHESTER COUNTY: WESTCHESTER ROUTE/RD#: CR0180 TO: SR 120 FACTOR GROUP: 40 TRAFFIC RECORDER SERIAL #: 0000 FUNCTIONAL CLASS: 16 TOWN: Harrison DIRECTION: 3 East STATE DIR CODE: 1 WEEK OF YEAR: 17 PLACEMENT: NHS: BIN: 1044760-1 @ REF MARKER: RR CROSSING# DATE OF COUNT: 05/01/2011 JURISDICTION: County COUNT TAKEN BY: DGV HPMS Sample ID: 69087010 COUNT TYPE: Vehicle Count NOTES: TO 12 TO 10 TO 7 TO TO TO TO TO TO TO DAILY ŤΟ τo ΤO TO 11 DAILY HIGH COUNT HOUR DATE DAY 14:00 М 16 08:00 08:00 08:00 23 27 36 355 08:00 73 08:00 14:00 14:00 385 324 08:00 46 27 32 20 397 243 156 73 08:00 07:00 W 12 08:00 62 35 15 08:00 64 25 10 484 244 243 204 183 156 13:00 11 14:00 08:00 08:00 18 28 373 320 468 346 214 W 67 08:00 37 43 08:00 16:00 09:00 14:00 12 08:00 08:00 08:00 45 08:00 08:00 12:00 16:00 14:00 342 495 321 211 229 257 276 273 336 283 334 250 08:00 AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon) ADT 47 157 356 510 339 262 264 280 285 338 332 320 346 279 174 135 114 ESTIMATED (one way) WEEKDAYS Counted WEEKDAY HOURS AVERAGE WEEKDAY High Hour % of Day _ Axle Adj. Factor **DAYS** Counted **HOURS** Counted ROUTE/RD #: CR0180 ROAD NAMEANDERSON HILL R FROM: WESTCHESTER TO:SR 120 COUNTY: WESTCHESTER STATION: DATE OF COUNT: 05/01/2011 STATE DIR CODE: 1 PLACEMENT:

STATION:

ROUTE/RD #: CR0180

ROAD NAMEANDERSON HILL R

STATE DIR CODE:2

New York State Department of Transportation Traffic Count Hourly Report

Date: 10/05/2012 Page: 10 of 24

STATION: 871012 ROAD NAME: ANDERSON HILL FROM: WESTCHESTER ROUTE/RD#: CR0180 COUNTY: WESTCHESTER TO: SR 120 DIRECTION: 7 West FACTOR GROUP: 40 TRAFFIC RECORDER SERIAL #: 0000 FUNCTIONAL CLASS: 16 TOWN: Harrison STATE DIR CODE: 2 PLACEMENT: WEEK OF YEAR: 17 NHS: No BIN: 1044760-1 DATE OF COUNT: 05/01/2011 @ REF MARKER: RR CROSSING#: JURISDICTION: County COUNT TYPE: Vehicle Count NOTES: COUNT TAKEN BY: DGV HPMS Sample ID: 69087010 TO 11 TO TO 12 TO TO TO DAILY DAILY TO 2 ŤΟ ŤO ΤO ΤO ΤO DAILY HIGH HIGH COUNT HOUR DATE DAY 11:00 М 17:00 17:00 17:00 330 47 17:00 310 324 16:00 14:00 17:00 10 11 12 33 49 17:00 10 26 207 183 312 17:00 w 17:00 17:00 14 15 51 51 17:00 268 38 S 12:00 S 12:00 17 18 19 М 17:00 22 26 40 11 17:00 205 285 374 103 W T 67 17:00 37 17:00 15 17:00 14:00 30 23 S 14:00 25 М 17:00 17:00 17:00 27 25 17:00 12:00 s 18:00 12:00 13:00 212 186 184 204 216 313 354 315 253 17:00 AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon) ADT 56 129 203 187 198 234 242 245 264 344 386 475 348 257 184 139 ESTIMATED (one way)
 WEEKDAYS Counted
 WEEKDAY HOURS
 AVERAGE WEEKDAY HOURS

 22
 450
 High Hour 475
 11
 __ Axle Adj. Factor HOURS Counted **DAYS Counted**

Page

FROM: WESTCHESTER

PLACEMENT:

1.000

TO:SR 120

Date: 10/05/2012 Page: 11 of 24

DATE DAY 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12 DAILY HIGH FOTAL COUNT HIGH FOTA	IESTER 1 DAILY
1 W 12 8 4 4 18 51 170 368 513 307 226 259 313 254 317 277 266 321 255 148 106 84 44 33 4358 513 00 2 T 6 2 2 3 15 47 184 359 548 338 251 251 251 246 267 328 351 349 369 308 160 114 96 62 27 4683 548 00 3 F 15 12 3 6 34 61 187 384 479 273 218 227 289 293 343 318 253 287 199 139 100 118 63 34 4335 479 00 4 8 5 24 17 8 9 7 23 72 146 235 171 178 244 249 251 258 314 236 192 174 156 112 126 87 50 3339 314 1 5 8 24 17 8 8 6 8 26 51 73 128 191 182 274 267 312 331 193 201 165 124 105 67 58 32 18 2854 331 1 6 M 18 5 3 11 1 4 44 174 375 507 310 255 221 283 277 314 365 307 312 264 130 107 87 40 25 4448 507 0 7 7 T 12 5 3 6 17 48 193 440 574 332 268 247 302 284 296 313 275 324 269 152 126 97 60 35 4680 574 0 9 T 10 13 2 4 18 46 170 443 512 324 243 275 272 320 309 348 363 339 297 122 92 76 69 34 4701 512 0 10 F 14 7 4 12 14 50 190 366 496 266 241 246 301 290 277 282 300 347 252 130 105 143 99 449 4481 496 49 60 11 8 25 28 16 7 12 7 28 46 73 229 180 206 257 310 344 240 282 192 172 147 103 83 78 18 17 65 12 5 316 344 11 12 8 28 16 7 12 7 28 46 73 229 180 206 257 310 344 240 282 192 172 147 103 83 78 15 1 25 316 344 11 2 8 28 16 7 12 7 28 46 73 229 180 206 257 310 344 240 282 192 172 147 103 83 78 15 1 25 316 344 11 2 8 28 16 7 12 7 28 46 73 229 180 206 257 310 344 240 282 192 172 147 103 83 78 15 1 25 316 344 11 2 8 28 16 7 12 7 28 46 73 229 180 206 257 310 344 240 282 192 172 147 103 83 78 15 1 25 316 344 11 2 8 28 16 7 12 7 28 46 73 229 180 206 257 310 344 240 282 192 172 147 103 83 78 15 1 25 316 344 11 2 8 28 16 7 12 7 28 46 73 229 180 206 257 310 344 240 282 192 172 147 103 83 78 15 1 25 316 344 11 2 8 28 16 7 12 7 28 46 73 229 180 206 257 310 344 240 282 192 172 147 103 83 78 15 1 25 316 344 11 2 8 28 16 7 12 7 28 46 73 229 180 206 257 310 344 240 282 192 172 147 103 83 78 15 1 25 316 344 11 2 8 28 16 7 12 7 28 46 73 229 180 206 257 310 344 240 282 192 172 147 103 83 78 15 1 25 316 344 11 2 8 28 16 7 12 7 28 46 73 229 180 206 257 310 344 240 282 192 172 147 103 83 78 15 1 25 316 344 11 2 8 28 16 7 12 7 28 46 73 229 180	HIGH
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3 F 15 12 3 6 34 61 187 384 479 273 218 227 289 293 343 318 253 287 199 139 100 118 63 34 4335 479 0 4 5 24 17 8 9 7 23 72 146 235 171 178 244 249 251 258 314 236 192 174 156 112 126 87 50 3339 314 1 5 5 8 23 11 8 6 8 26 51 73 128 191 182 274 267 312 331 193 201 165 124 105 67 58 32 18 2854 331 1 6 M 18 5 3 11 14 44 174 375 507 310 255 221 283 277 314 365 307 312 264 130 107 87 40 25 4448 507 0 7 T 12 5 3 6 18 45 171 431 523 336 270 257 311 306 306 349 327 393 295 144 107 88 53 30 4786 523 0 8 W 17 3 2 6 17 48 193 440 574 332 268 247 302 284 296 313 275 324 269 152 126 97 60 35 4680 574 0 9 T 10 13 2 4 18 46 170 443 512 324 243 275 272 320 309 348 363 339 297 122 92 76 69 34 4701 512 0 10 F 14 7 4 12 14 50 190 366 496 266 241 246 301 290 277 282 300 347 252 130 105 143 99 49 4481 496 0 11 8 25 12 12 8 25 12 13 5 5 5 2 9 70 125 275 182 188 244 247 254 240 282 192 172 147 103 83 78 51 25 3116 344 1	08:00
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7 T 12 5 3 6 18 45 171 431 523 336 270 257 311 306 306 349 327 393 295 144 107 88 53 30 4786 523 0 8 W 17 3 2 6 17 48 193 440 574 332 268 247 302 284 296 313 275 324 269 152 126 97 60 35 4680 574 0 9 T 10 13 2 4 18 46 170 443 512 324 243 275 272 320 309 348 363 339 297 122 92 76 69 34 4701 512 0 10 F 14 7 4 12 14 50 190 366 496 266 241 246 301 290 277 282 300 347 252 130 105 143 99 49 4481 496 0 11 8 25 12 13 5 5 5 29 70 125 275 182 188 244 247 254 240 388 201 189 208 142 108 99 147 68 3464 388 1 12 S 28 16 7 12 7 28 46 73 229 180 206 257 310 344 240 282 192 172 147 103 83 78 51 25 3116 344 1	08:00
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	15:00
13 M 5 6 2 7 14 52 164 424 530 315 239 258 246 243 313 318 322 328 313 263 142 107 56 27 4694 530 0	13:00
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10 10 10 10 10 10 10 10 10 10 10 10 10 1	08:00 08:00
	15:00
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	16:00
	12:00
20 0 21 11 10 10 10 10 10 10 10 10 10 10 10 10	12:00
	08:00 08:00
	08:00 08:00
	08:00
AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon) 12 7 4 6 17 52 174 397 529 312 245 258 291 284 305 346 317 353 276 154 122 96 58 32 ADT 4647	7
DAYS Counted HOURS Counted WEEKDAY'S Counted WEEKDAY HOURS <u>AVERAGE WEEKDAY</u> Axle Adj. Factor ESTIMATED (one w	way)
High Hour % of Day 30 720 22 456 529 11 1.000	

ROUTE/RD #: CR0180 ROAD NAMEANDERSON HILL R FROM: WESTCHESTER STATE DIR CODE:1

STATION: 871012

PLACEMENT:

COUNTY: WESTCHESTER DATE OF COUNT: 06/01/2011 TO:SR 120

STATION:

STATE DIR CODE: 2

New York State Department of Transportation Traffic Count Hourly Report

Date: 10/05/2012

DATE OF COUNT: 06/01/2011

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STATION: 871012 ROAD NAME: ANDERSON HILL FROM: WESTCHESTER COUNTY: WESTCHESTER ROUTE/RD#: CR0180 TO: SR 120 DIRECTION: 7 West FACTOR GROUP: 40 TRAFFIC RECORDER SERIAL #: 0000 FUNCTIONAL CLASS: 16 TOWN: Harrison STATE DIR CODE: 2 WEEK OF YEAR: 22 PLACEMENT: NHS: No BIN: 1044760-1 RR CROSSING#: DATE OF COUNT: 06/01/2011 @ REF MARKER: JURISDICTION: County COUNT TYPE: Vehicle Count COUNT TAKEN BY: DGV HPMS Sample ID: 69087010 NOTES: TO 11 TO 9 TO 12 TO TQ TO 2 TO TO DAILY DAILY то ΤO DAILY HIGH COUNT HOUR DATE <u>DAY</u> PM 17:00 17:00 17:00 15:00 61 16:00 9 360 367 М 17:00 17:00 17:00 17:00 36 20 217 193 149 15:00 15:00 17:00 14 15 17:00 15 16 256 359 432 410 293 209 36 17:00 W 16:00 Т 16:00 16:00 39 217 176 290 246 183 129 126 290 14 16:00 S M 15:00 17:00 17:00 W 17:00 24 13 17:00 17:00 15:00 15:00 16:00 17:00 W 16:00 16:00 AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon) ADT 3 7 66 133 224 203 195 236 237 226 252 352 408 466 337 216 204 133 ESTIMATED (one way) HOURS Counted WEEKDAYS Counted WEEKDAY HOURS ABOVE HIGH HOURS WEEKDAY HOURS HIGH HOUR % of Day Axle Adj. Factor **DAYS Counted** ROUTE/RD #; CR0180 ROAD NAMEANDERSON HILL R FROM: WESTCHESTER TO:SR 120 COUNTY: WESTCHESTER

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Date: 10/05/2012 Page: 13 of 24

STATION: 871012 ROAD NAME: ANDERSON HILL FROM: WESTCHESTER COUNTY: WESTCHESTER ROUTE/RD #: CR0180 TO: SR 120 FACTOR GROUP: 40 DIRECTION: TRAFFIC RECORDER SERIAL #: 0000 FUNCTIONAL CLASS: 16 TOWN: Harrison STATE DIR CODE: 1 PLACEMENT: WEEK OF YEAR: 26 NHS: No BIN: 1044760-1 DATE OF COUNT: 07/01/2011 @ REF MARKER: JURISDICTION: RR CROSSING#: County COUNT TYPE: Vehicle Count HPMS Sample ID: 69087010 COUNT TAKEN BY: DGV NOTES: TO 11 TO 7 TO 10 TO 9 TO 10 TO 12 TO TO 2 TO TO TO TO 5 ΤΌ 8 TO TO 2 ŤΟ ŤΟ то TO HIGH HIGH TOTAL COUNT HOUR DATE <u>DAY</u> PM 08:00 s 21:00 14:00 15:00 63 541 231 268 274 15 08:00 T 08:00 08:00 08:00 118 13:00 13:00 08:00 М 08:00 60 164 34 W 08:00 08:00 00:80 s 13:00 14:00 М 12 08:00 08:00 08:00 08:00 08:00 12:00 s 16 13:00 08:00 13 15 57 153 33 08:00 W 08:00 08:00 08:00 s 15:00 S 156 164 193 171 164 151 13:00 AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon) ADT 7 14 54 166 407 522 298 214 249 269 258 270 348 298 286 238 132 113 ESTIMATED (one way)
 WEEKDAYS Counted
 WEEKDAY HOURS
 AVERAGE WEEKDAY - High Hour
 % of Day 522
 12
 DAYS Counted HOURS Counted Axle Adj. Factor

ROUTE/RD #: CR0180 STATION:

ROAD NAMEANDERSON HILL R STATE DIR CODE: 1

FROM: WESTCHESTER PLACEMENT:

TO:SR 120

COUNTY: WESTCHESTER

DATE OF COUNT: 07/01/2011

Date: 10/05/2012

Page: 14 of 24

ROUTE/		R0180			D NA														D: SR			00	40					HESTER
DIRECT		West			OR G								EKS	ERIAL	.#: UU	100			JNCT		L CLA	155:	16			TOWN: I	⊣arrısor	1
	DIR CODE			WEE	K OF	YEAR	: 26	3			IENT:									No							104476	J-1
DATE O	F COUNT	: 07/01/	2011						@	REF 1	MARK	ER:						JL	JRISD	ICTIC	N:	Count	ty	RR C	ROS	SING#:		
NOTES:				CC	TNUC	TYPE	: Vel	nicle (Count									C	TNUC	TAKE	EN BY	': DGV	/	HPM:	S San	nple ID: (590870°	10
		12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11		DAILY	DAILY
		TO 1	TO 2	TO 3	TO 4	TO 5	TO 6	TO	TO 8	TO 9	TO 10	TO 11	TO 12	TO 1	TO 2	TO 3	10 4	TO 5	TO 6	TO 7	TO 8	TO 9	TO 10	TO 11	TO 12	DAILY	HIGH	HIGH
DATE	DAY		_		7		·	•	Ü	Ü				,	-	·	•			•	•	•			-	TOTAL	COUNT	HOUR
<u> </u>	<u> </u>						AM												PM] ——		
1	F	17	13	5	2	11	33	67	136	217	203	206	212	302	251	319	460	336	203	184	109	96	64	58	41	3545	460	15:00
2	S	23	12	8	6	11	20	40	90	110	138	134	167	144	159	172	159	169	152	197	135	139	97	88	66	2436	197	18:00
3	s	31	17	10	4	13	8	42	33	55	74	99	143	178	134	129	138	105	83	98	93	81	64	51	19	1702	178	12:00
4	M	21	12	7	3	6	14	27	46	101	94	104	138	129	154	145	190	146	112	110	88	83	61	61	27	1879	190	15:00
5	T	12	8	6	8	7	23	56	123	282	207	134	224	203	206	201	357	397	431	293	212	196	115	60	29	3790	431	17:00
6	W	8	9	3	4	11	29	67	146	262	244	183	24 2	225	214	220	424	397	438	284	186	244	129	80	22	4071	438	17:00
7	T	19	10	2	3	4	30	61	153	274	258	186	234	250	210	260	459	438	447	354	184	217	159	83	44	4339	459	15:00
8	F	36	12	4	4	4	31	52	132	280	212	189	291	272	322	329	430	400	333	207	129	70	66	58	33	3896	430	15:00
9	S	23	18	6	7	6	19	41	94	110	147	168	201	207	187	201	190	185	181	140	132	78	101	72	69	2583	207	12:00
10	S	24	17	8	6	11	10	35	56	67	99	128	184	199	202	193	190	193	171	142	117	116	50	47	23	2288	202	13:00
11	M T	8	3 5	2	3	6	28	71	155	271	308	206	260	225	225	244	410	439	431	327	191 221	206 236	132	81	44 34	4276	439	16:00 17:00
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13 14	T	13	13	3	о 6	7	24 29	79 58	144	308	286	173	288	276	247	271	375	45Z 461	490	360	187	224	161	75	56	4290 4511	490	17:00
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16	s	11	10	6	7	6	21	60	79	80	116	153	183	174	158	153	175	156	145	162	131	100	75	85	55	2301	183	11:00
17	s	23	5	11	1	9	13	39	48	83	98	149	140	211	165	201	158	174	126	162	125	94	56	37	28	2156	211	12:00
18	м	16	6	3	5	7	30	70	128	285	261	202	226	213	170	214	388	396	448	259	153	178	109	52	30	3851	448	17:00
19	Т	3	1	ō	4	9	20	72	143	291	247	182	237	232	206	232	398	450	442	290	236	246	97	73	43	4154	450	16:00
20	W	32	5	5	4	4	29	65	144	319	272	166	222	230	223	233	402	444	450	320	181	210	140	85	38	4223	450	17:00
21	T	17	7	3	5	4	35	68	153	296	257	193	248	236	222	203	444	380	414	329	187	202	128	71	37	4139	444	15:00
22	F	17	7	6	5	5	25	63	148	284	225	197	241	281	245	271	427	323	248	227	142	96	90	67	45	3686	427	15:00
23	S	22	14	9	8	7	17	44	88	91	113	142	163	151	154	148	154	187	134	161	121	102	106	84	84	2304	187	16:00
24	S	41	30	6	10	6	15	36	65	62	85	123	163	203	160	171	167	145	154	135	89	87	61	58	48	2120	203	12:00
25	М	15	7	7	3	5	29	59	124	274	222	169	194	207	202	221	360	388	430	290	187	136	97	77	31	3734	430	17:00
26	T	8	1	5	3	13	29	67	154	291	239	176	206	212	196	251	359	401	433	268	224	229	106	61	37	3969	433	17:00
27	M	28	4	3	3	8	35	69	150	270	236	175	243	237	216	227	397	363	445	263	165	222	113	59	36	3967	445	17:00
28	Ţ	11	8	4	5	8	33	53	163	276	228	170	247	245	208	254	379	414	430	319	239	216	111	76	37	4134	430	17:00
29	F	9	6	5	1	9	23	61	127	256	214	206	205	290	276	287	427	347	295	248	115	80	87	55	31	3660	427	15:00
30	s s	20 20	9	9	1	7	16	39	90	104	126	135	187	185	161	136	153	211	136	142	96	89 90	73 60	97 44	83 40	2305 2211	211 227	16:00 12:00
31	5	20	15	4	4	10	11	47	66	52	108	146	185	227	187	160	184	169	150	129	103	90	UG	44	40	2271	221	12.00
		16 8	4		4	8 :	28					78 2	34 2	xle Fa 25 21	10 2	28 3	83 39	8 42	21 29	1 19	0 20	14 12	20	70 3	37	ADT ESTIMAT		976 e way)
DAYS	S Counted	HOURS	Coun	ted	WEE	KDAYS	Coun	ted	WEEK	DAY H	ours	Av		WEEK	DAY % of E		Axle A	dj. Fac	tor							,	(211	
	31	74	4	_	_	21				420		421			76 UI L			1.00	0									
	RD #: CR0	/		RO	AD NA		NDE	RSON	HILL	R	FRO			HEST	FR				O:SR	120					00	UNITY	VESTO	HESTER
STATION			STA	-	DIR C					• • •		CEME		•					J. 011					DATE		OUNT: 0		
	,	-	- 17				_																					

Date: 10/05/2012 Page: 15 of 24

STATION: 871012 ROAD NAME: ANDERSON HILL FROM: WESTCHESTER COUNTY: WESTCHESTER ROUTE/RD #: CR0180 TO: SR 120 DIRECTION: FACTOR GROUP: 40 TRAFFIC RECORDER SERIAL #: 0000 FUNCTIONAL CLASS: 16 TOWN: Harrison STATE DIR CODE: 1 WEEK OF YEAR: 31 PLACEMENT: NHS: BIN: 1044760-1 DATE OF COUNT: 08/01/2011 RR CROSSING#: @ REF MARKER: JURISDICTION: County HPMS Sample ID: 69087010 COUNT TYPE: Vehicle Count COUNT TAKEN BY: DGV NOTES: TO TO TO TO DAILY HIGH τo ŤO то TO 11 TOTAL COUNT HOUR DATE <u>DAY</u> PM 08:00 08:00 08:00 W 08:00 33 08:00 136 170 S 24 14:00 15:00 00:80 08:00 W 20 11 283 280 256 231 175 43 33 08:00 11 12 13 08:00 08:00 14:00 15 185 238 262 210 14:00 М 08:00 08:00 5 08:00 7 218 256 219 185 27 Т 11 08:00 08:00 s 15:00 13:00 22 322 23 08:00 08:00 08:00 W 08:00 08:00 s 10:00 18:00 S 14:00 М 08:00 W 430 537 314 285 284 294 391 321 355 328 409 08:00 AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon) ADT 7 15 58 173 372 452 273 241 255 277 275 271 302 263 279 209 129 108 ESTIMATED (one way)
 WEEKDAYS Counted
 WEEKDAY HOURS
 AVERAGE WEEKDAY HOUR HIGH Hour % or 452
 _ Axle Adj. Factor HOURS Counted **DAYS** Counted % of Day

STATION: 871012 STATE DIR CODE:1 PLACE

ROAD NAMEANDERSON HILL R

ROUTE/RD #; CR0180

FROM: WESTCHESTER TO:SR 120 PLACEMENT:

COUNTY: WESTCHESTER DATE OF COUNT: 08/01/2011

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STATE DIR CODE: 2

STATION:

New York State Department of Transportation Traffic Count Hourly Report

Date: 10/05/2012

DATE OF COUNT; 08/01/2011

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STATION: 871012 ROAD NAME: ANDERSON HILL FROM: WESTCHESTER COUNTY: WESTCHESTER ROUTE/RD#: CR0180 TO: SR 120 DIRECTION: 7 West FACTOR GROUP: 40 TRAFFIC RECORDER SERIAL #: 0000 FUNCTIONAL CLASS: 16 TOWN: Harrison STATE DIR CODE: 2 WEEK OF YEAR: 31 PLACEMENT: NHS: No BIN: 1044760-1 DATE OF COUNT: 08/01/2011 @ REF MARKER: JURISDICTION: County RR CROSSING#: COUNT TAKEN BY: DGV HPMS Sample ID: 69087010 NOTES: COUNT TYPE: Vehicle Count TO 9 TO 11 TO 12 TO TO TO DAILY DAILY то Ťο TO ΤO DAILY HIGH TOTAL COUNT HOUR DATE <u>DAY</u> 15:00 17 74 16:00 ٧V 17:00 15:00 15:00 32 155 150 s 10 14:00 12:00 16:00 16:00 12 19 28 24 W 15 12 64 265 395 384 266 35 17:00 12 16:00 15:00 13:00 73 12:00 16 17 М 7 27 17:00 17:00 17:00 17:00 20 16 15:00 S 15:00 12:00 17:00 57 286 373 24 14 32 17:00 17:00 W 17:00 16:00 11:00 14:00 17:00 М 17:00 W 250 282 295 288 338 432 17:00 AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon) ADT 60 129 216 187 185 224 230 223 257 349 388 418 277 189 137 ESTIMATED (one way) WEEKDAYS Counted WEEKDAY HOURS AVERAGE WEEKDAY HOURS High Hour % o _ Axle Adj. Factor **DAYS** Counted HOURS Counted % of Day ROUTE/RD #: CR0180 ROAD NAMEANDERSON HILL R FROM: WESTCHESTER TO:SR 120 COUNTY: WESTCHESTER

> Page

Date: 10/05/2012

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STATIO ROUTE/ DIRECT		2 CR0180 East				ME:								ESTE ERIAL		00			D: SR UNCT	120 IONAL	_ CLA	SS:	16			DUNTY: '		HESTER
DATE O	DIR CODE F COUNT					YEAR	-		@	ACEM REF I								JL	JRISD	No ICTIO		Count	,			SING#:	1044760	
NOTES:		40				TYPE			Count 7		•	40	44	40			3	_		TAKE			9			nple ID: (6908701	0
		12 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7		8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 1	1 TO 2	2 TO 3		4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	TO 10	10 TO 11	11 TO 12	DAILY TOTAL	DAILY HIGH COUNT	DAILY HIGH HOUR
DATE	DAY						АM							1					PM							1 ——		
1	Т	20	15	8	11	22	60	173	443	466	369	286	321	294	384	308	345	311	363	280	189	183	139	85	55	5130	466	08:00
2	F	25	19	17	14	25	56	168	381	386	358	280	314	322	337	314	321	320	324	249	212	209	151	100	61	4963	386	08:00
3	s	34	21	25	16	16	38	84	111	162	147	168	231	241	267	270	288	245	223	199	196	203	194	117	71	3567	288	15:00
4	S	36	32	40	35	19	29	51	65	88	162	150	176	163	238	250	214	237	203	182	199	224	119	80	61	3053	250	14:00
5	М	35	20	16	15	11	31	55	75	80	121	138	179	185	210	215	229	239	195	191	205	147	96	73	42	2803	239	16:00
6	T	23	6	6	6	18	55	181	414	533	412	292	262	285	249	280	327	320	418	278	148	126	71	43	36	4789	533	08:00
7	W	20	13	5	4	12	36	140	290	359	255	230	265	278	294	321	398	329	375	295	155	119	112	56	52	4413	398	15:00
8	Ť F	15	9	4	6	10	39	140	348	400	415	310	324	267	288	322	351	346	436	318	177	140	114	71	40	4890	436	17:00
9 10	F S	38 32	21 40	9 27	12 32	22 17	67 35	182 83	477 148	519 208	349 211	276 223	298 266	291 284	309 297	358 293	370 322	357 315	352 237	245 263	183 206	196 163	186 157	116 175	68 113	5301 4147	519 322	08:00 15:00
11	S	3 <u>∠</u> 101	32	37	41	15	29	53	90	141	211	168	237	204	259	265	264	220	209	203	185	134	81	61	33	3274	265	14:00
12	M	20	11	9	7	19	64	212	477	544	374	281	289	282	261	295	382	332	388	284	163	128	94	49	34	4999	544	08:00
13	T	17	7	1	10	23	67	229	479	570	413	272	349	269	336	295	370	355	413	306	151	114	113	65	46	5270	570	08:00
14	ŵ	29	16	13	9	17	68	203	504	547	333	253	262	275	370	335	386	331	433	311	188	134	121	75	43	5256	547	08:00
15	Ť	18	15	10	9	14	65	230	496	550	350	251	295	285	299	328	398	364	466	293	159	124	126	74	49	5268	550	08:00
16	F	23	13	10	10	13	57	205	449	472	330	255	260	305	340	352	344	361	326	263	208	193	160	125	82	5156	472	08:00
17	\$	46	39	31	37	8	37	86	137	232	221	212	235	245	263	282	275	258	209	258	198	167	148	152	89	3865	282	14:00
18	S	58	35	38	30	14	25	61	121	181	184	195	231	260	248	212	269	261	276	180	175	145	109	79	50	3437	276	17:00
19	М	23	10	10	12	25	65	221	461	514	362	260	284	247	256	293	359	274	441	302	133	116	84	49	39	4840	514	08:00
20	Т	19	9	8	5	26	73	240	483	486	337	230	283	242	272	331	380	297	378	288	200	171	136	61	55	5010	486	08:00
21	W	22	12	6	7	20	59	222	498	554	288	273	303	270	334	293	372	356	398	250	166	147	100	64	44	5058	554	08:00
22	Ţ	14	16	11	9	15	51	206	442	534	336	266	285	292	272	302	380	353	392	344	207	110	113	67	39	5056	534	08:00
23	F	23	11	10	10	16	62	189	462	482	351	247	292	260	287	307	355	357	318	294	199	185	154	119	61	5051	482	08:00
24 25	S S	37 46	26 32	33 36	24 32	6 13	26 26	87 60	137 72	177 162	212 204	221 172	294 198	301 246	252 250	265 233	264 237	260 256	260 240	233 187	173 179	154 140	168 111	99 72	75 47	3784 3251	301 256	12:00 16:00
25 26	M	46 17	3∠ 13	36 5	32 10	22	∠6 58	178	446	498	399	270	331	270	288	321	381	330	400	297	167	131	82	72 52	34	320 I 5000	498	08:00
27	T	23	18	6	4	22	62	224	459	547	394	252	305	281	309	310	403	350	471	275	182	117	103	62	38	5217	547	08:00
28	w	41	11	2	8	16	62	197	450	519	331	247	260	273	295	323	348	378	380	234	165	110	108	88	39	4885	519	08:00
29	Ϋ́	26	14	7	13	22	55	181	439	473	356	248	310	298	276	302	341	326	321	243	140	129	101	70	32	4723	473	08:00
30	F	26	17	5	12	20	64	190	421	412	371	253	301	311	334	317	349	335	303	241	166	199	160	91	90	4988	421	07:00
														xle Fa												ADT	48	65
		23 13			9 1				27 4					70 29						2 17	0 13	2 10	7	65 4	2	ESTIMAT		e way)
DAY	S Counted	HOUR	S Cour	nted	WEE	KDAYS	Coun	ted	WEEK	DAY H	OURS	<u>AV</u> Hìgh l		WEEK	OAY % of D		Axle A	•	_								- ,511	-37
	30	72	0			22				444		475			14			1,00	0									
ROUTE/	RD#: CR	0180		RO	AD NA	AMEA	NDE	300	HILL	R	FRO	M: W	ESTO	HEST	ER			T	O:SR	120					CC	OUNTY: V	VESTC	HESTER
STATION	N; 871	012	ST.	ATE [DIR C	ODE:	i				PLA	CEME	NT:											DATE	OF C	OUNT: 0	9/01/20	11

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STATE DIR CODE: 2

STATION:

New York State Department of Transportation Traffic Count Hourly Report

Date: 10/05/2012

DATE OF COUNT: 09/01/2011

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STATION: 871012 ROUTE/RD #: CR0180 ROAD NAME: ANDERSON HILL FROM: WESTCHESTER TO: SR 120 COUNTY: WESTCHESTER FACTOR GROUP: 40 TRAFFIC RECORDER SERIAL #: 0000 FUNCTIONAL CLASS: 16 TOWN: Harrison DIRECTION: 7 West STATE DIR CODE: 2 WEEK OF YEAR: 35 PLACEMENT: NHS: No BIN: 1044760-1 DATE OF COUNT: 09/01/2011 @ REF MARKER: JURISDICTION: County RR CROSSING#: COUNT TYPE: Vehicle Count NOTES: COUNT TAKEN BY: DGV HPMS Sample ID: 69087010 TO 11 TO 11 TO TO TO ТО TO TO TO TO TO TO TO 2 DAILY ŤΟ TO 5 Τo ŤO ŤΟ DAILY ΤO HIGH HIGH COUNT HOUR DATE <u>DAY</u> 17:00 32 16:00 s 14:00 17:00 14:00 М 22 24 17:00 17:00 W 17:00 16:00 216 159 16:00 12:00 S M T 17:00 17:00 17:00 Т 25 16:00 17:00 17 16:00 s 12:00 369 17:00 17:00 17:00 16:00 228 168 37 55B 16:00 15:00 S 12:00 16:00 М 17:00 W 17:00 16:00 16:00 AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon) ADT 32 75 151 208 204 213 267 264 261 316 368 475 489 378 226 201 5 10 ESTIMATED (one way) WEEKDAYS Counted WEEKDAY HOURS AVERA High Hour AVERAGE WEEKDAY **DAYS** Counted **HOURS** Counted Axle Adj. Factor % of Day 1.000 ROUTE/RD #: CR0180 ROAD NAMEANDERSON HILL R FROM: WESTCHESTER TO:SR 120 COUNTY: WESTCHESTER

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STATION:

S

New York State Department of Transportation Traffic Count Hourly Report

Date: 10/05/2012

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Page:

STATION: 871012 ROUTE/RD#: CR0180 ROAD NAME: ANDERSON HILL FROM: WESTCHESTER TO: SR 120 COUNTY: WESTCHESTER FACTOR GROUP: 40 TRAFFIC RECORDER SERIAL #: 0000 FUNCTIONAL CLASS: 16 TOWN: Harrison DIRECTION: 3 East STATE DIR CODE: 1 WEEK OF YEAR: 39 PLACEMENT: NHS: No BIN: 1044760-1 DATE OF COUNT: 10/01/2011 @ REF MARKER: JURISDICTION: RR CROSSING#: County HPMS Sample ID: 69087010 NOTES: COUNT TYPE: Vehicle Count COUNT TAKEN BY: DGV TO 11 TO TO TO 11 TO TO TO TO TO TO TO TO DAILY DAILY ŤΟ Ťο ΤO ŤΟ ΤO DAILY RIGH HIGH COUNT HOUR DATE <u>DAY</u> 17:00 247 4 14:00 4 М 08:00 08:00 08:00 08:00 28 11 08:00 15:00 15:00 21 27 251 15:00 07:00 08:00 13 W 08:00 252 08:00 s 43 12:00 08:00 s 08:00 М 7 07:00 27 350 173 W 08:00

67 213 466 502 348 255 297 274 296 323 371 343 395 274 160 130 109 ESTIMATED (one way) WEEKDAY HOURS AVERA AVERAGE WEEKDAY DAYS Counted **HOURS** Counted WEEKDAYS Counted __ Axle Adj. Factor % of Day 1.000 ROUTE/RD #: CR0180 ROAD NAMEANDERSON HILL R FROM: WESTCHESTER TO:SR 120 COUNTY: WESTCHESTER

PLACEMENT:

279 262

AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon)

365 245

27

STATE DIR CODE: 1

 DATE OF COUNT: 10/01/2011

ADT

08:00

08:00

12:00

00-80

08:00

07:00

08:00

08:00

08:00

10:00

17:00

08:00

324 370 289 160

Page

Date: 10/05/2012 Page: 20 of 24

STATION: 871012 ROAD NAME: ANDERSON HILL FROM: WESTCHESTER COUNTY: WESTCHESTER ROUTE/RD #: CR0180 TO: SR 120 DIRECTION: 7 West FACTOR GROUP: 40 TRAFFIC RECORDER SERIAL #: 0000 FUNCTIONAL CLASS: 16 TOWN: Harrison STATE DIR CODE: 2 WEEK OF YEAR: 39 PLACEMENT: NHS: No BIN: 1044760-1 DATE OF COUNT: 10/01/2011 @ REF MARKER: JURISDICTION: County RR CROSSING#: HPMS Sample ID: 69087010 COUNT TYPE: Vehicle Count COUNT TAKEN BY: DGV NOTES: TO 11 TO 12 TO 9 TO 5 TO 2 T**O** DAILY то ŤO то DAILY HIGH HIGH COUNT HOUR DATE <u>DAY</u> 12:00 7 16:00 17:00 М W 17:00 408 16:00 16:00 40 15:00 15:00 341 304 34 31 35 259 283 384 509 41 16:00 11 12 13 14 15 16 17 9 16:00 17:00 50 41 17:00 228 42 13 12 398 279 373 309 16:00 S 11:00 12:00 31 34 34 19 20 251 256 357 325 455 503 357 205 99 57 17:00 W 17:00 17:00 57 54 14 16:00 265 16:00 23 24 25 32 69 S M 10:00 17:00 17:00 27 28 17 16:00 16:00 16:00 s 11:00 14:00 М 146 236 195 210 240 257 353 399 523 438 283 184 16:00 AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon) ADT 15 10 88 159 227 214 214 265 254 275 329 378 488 497 370 213 214 173 ESTIMATED (one way)
 WEEKDAYS Counted
 WEEKDAY HOURS
 AVERAGE WEEKDAY

 21
 426
 497
 11
 Axle Adj. Factor HOURS Counted **DAYS** Counted

ROUTE/RD #; CR0180 STATION:

ROAD NAMEANDERSON HILL R STATE DIR CODE: 2

FROM: WESTCHESTER PLACEMENT:

TO:SR 120

COUNTY: WESTCHESTER DATE OF COUNT: 10/01/2011

Date: 10/05/2012 Page: 21 of 24

STATION: 871012 ROUTE/RD #: CR0180 ROAD NAME: ANDERSON HILL FROM: WESTCHESTER TO: SR 120 COUNTY: WESTCHESTER DIRECTION: FACTOR GROUP: 40 TRAFFIC RECORDER SERIAL #: 0000 FUNCTIONAL CLASS: 16 TOWN: Harrison STATE DIR CODE: 1 PLACEMENT: WEEK OF YEAR: 44 NHS: No BIN: 1044760-1 DATE OF COUNT: 11/01/2011 @ REF MARKER: RR CROSSING#: JURISDICTION: County HPMS Sample ID: 69087010 COUNT TYPE: Vehicle Count COUNT TAKEN BY: DGV NOTES: TO 1 TO 9 TO TO To TO DAILY †0 ŤΟ TO ŤΟ ŤO TO τo ŤΟ TO тo ŤO ΤO TO 11 DAILY HIGH TOTAL COUNT HOUR DATE DAY ΡМ 08:00 W 08:00 08:00 2 00:80 38 34 239 265 S 13 12:00 6 7 S 16:00 08:00 М 08:00 25 10 11 W 17 336 08:00 Т 08:00 08:00 S 19:00 14 15 33 351 S 14:00 M 08:00 08:00 W 08:00 30 40 08:00 19 F 08:00 S 17:00 14:00 08:00 27 08:00 w 20 79 55 08:00 Т 12:00 S 12:00 S 17:00 М 08:00 08:00 W 08:00 AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon) ADT 30 20 11 10 16 39 147 332 496 336 281 255 280 267 302 329 337 343 334 191 132 113 ESTIMATED (one way) HOURS Counted WEEKDAYS Counted WEEKDAY HOURS AVERAGE WEEKDAY HOURS High Hour % of _ Axle Adj. Factor **DAYS Counted** % of Day ROUTE/RD #: CR0180

ROAD NAMEANDERSON HILL R STATION: STATE DIR CODE: 1

FROM: WESTCHESTER TO:SR 120 PLACEMENT:

COUNTY: WESTCHESTER DATE OF COUNT: 11/01/2011

STATION:

New York State Department of Transportation Traffic Count Hourly Report

Date: 10/05/2012

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STATION: 871012 ROUTE/RD#: CR0180 ROAD NAME: ANDERSON HILL FROM: WESTCHESTER TO: SR 120 COUNTY: WESTCHESTER DIRECTION: 7 West FACTOR GROUP: 40 TRAFFIC RECORDER SERIAL #: 0000 FUNCTIONAL CLASS: 16 TOWN: Harrison WEEK OF YEAR: 44 PLACEMENT: STATE DIR CODE: 2 NHS: No BIN: 1044760-1 DATE OF COUNT: 11/01/2011 @ REF MARKER: RR CROSSING#: JURISDICTION: County HPMS Sample ID: 69087010 NOTES: COUNT TYPE: Vehicle Count COUNT TAKEN BY: DGV TO 11 TO 1 TO 5 TO 10 TO 12 TO 10 TO TO TO To DAILY DAILY TO 6 ŤO ŤO TO ŦΟ ŤΟ ŤΟ ŤΟ ŤΟ TO. DAILY HIGH TOTAL COUNT HOUR DATE DAY ΑN 16:00 W 17:00 3 17:00 **0**9 16:00 10 313 239 S 27 15:00 7 12:00 17:00 9 17:00 37 W 27 353 486 17:00 Т 17:00 17:00 S 16:00 14 15 15 510 389 s 33 RΩ 17:00 M 17:00 17:00 W 17:00 28 42 18 45 47 Q 17:00 16:00 s 15:00 16:00 22 23 25 28 17:00 17:00 w 15:00 20:00 16:00 s 147 212 15:00 S 13:00 17:00 17:00 W 17:00 AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon) ADT 21 53 126 194 196 196 223 260 255 284 343 428 490 382 245 192 207 121 22 12 ESTIMATED (one way)
 WEEKDAYS Counted
 WEEKDAY HOURS
 AVERAGE WEEKDAY HOUR High Hour W of Day 490
 Axie Adj. Factor 1.000
 HOURS Counted DAYS Counted

ROUTE/RD #: CR0180 ROAD NAMEANDERSON HILL R FROM: WESTCHESTER

TO:SR 120 STATE DIR CODE: 2 PLACEMENT:

COUNTY: WESTCHESTER DATE OF COUNT: 11/01/2011

DAYS Counted

HOURS Counted

8 13

New York State Department of Transportation Traffic Count Hourly Report

Date: 10/05/2012 Page: 23 of 24

ADT

ESTIMATED (one way)

 STATION: 871012 ROUTE/RD#: CR0180 ROAD NAME: ANDERSON HILL FROM: WESTCHESTER TO: SR 120 COUNTY: WESTCHESTER DIRECTION: 3 East FACTOR GROUP: 40 TRAFFIC RECORDER SERIAL #: 0000 FUNCTIONAL CLASS: 16 TOWN: Harrison STATE DIR CODE: 1 WEEK OF YEAR: 48 PLACEMENT: NHS: No BIN: 1044760-1 DATE OF COUNT: 12/01/2011 @ REF MARKER: RR CROSSING#: JURISDICTION: County COUNT TAKEN BY: DGV HPMS Sample ID: 69087010 COUNT TYPE: Vehicle Count NOTES: TO 11 TO 1 TO 10 TO 12 TO 9 Z TO TO TO TO τ̈́ο DAILY DAILY TO 2 ŤΟ TO 6 ŤO то TO 9 ŤΟ ŤO ŤΟ ŤΟ DAILY TOTAL COUNT HOUR DATE DAY PM 317 34 08:00 08:00 16:00 14:00 12 35 309 264 295 313 331 347 46 М 23 75 08:00 08:00 W 08:00 08:00 47 33 25 11 185 216 240 235 08:00 11 s 12:00 12:00 27 26 10 08:00 327 382 14 15 17 13 35 267 274 320 380 26 08:00 w 08:00 08:00 17 08:00 S 7 15:00 19 218 240 242 236 177 5 21 14:00 S M T 08:00 08:00 W 08:00 45 23 11 08:00 08:00 12:00 27 10 207 193 178 70 47 41 14:00 7 08:00 W 08:00 08:00 10 14:00 S 134 149 15:00 AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon)

WEEKDAYS Counted WEEKDAY HOURS AVERAGE WEEKDAY High Hour % of % of Day ROUTE/RD #: CR0180 ROAD NAMEANDERSON HILL R FROM: WESTCHESTER TO:SR 120 COUNTY: WESTCHESTER STATION: DATE OF COUNT; 12/01/2011 STATE DIR CODE: 1 PLACEMENT:

_ Axle Adj. Factor

29 122 271 419 294 229 233 243 246 265 272 278 280 236 143

Page

STATE DIR CODE:2

STATION:

New York State Department of Transportation Traffic Count Hourly Report

Date: 10/05/2012

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STATION: 871012 ROAD NAME: ANDERSON HILL FROM: WESTCHESTER ROUTE/RD#: CR0180 TO: SR 120 COUNTY: WESTCHESTER TRAFFIC RECORDER SERIAL#: 0000 DIRECTION: 7 West FACTOR GROUP: 40 FUNCTIONAL CLASS: 16 TOWN: Harrison STATE DIR CODE: 2 WEEK OF YEAR: 48 PLACEMENT: NHS: No BIN: 1044760-1 @ REF MARKER: DATE OF COUNT: 12/01/2011 JURISDICTION: County RR CROSSING#: NOTES: COUNT TYPE; Vehicle Count COUNT TAKEN BY: DGV HPMS Sample ID: 69087010 TO 1 TO 11 TO 10 TO 11 TO 12 TO TO TO TO TO TO TO TO TO TO TO g TO TO TO TO TO DAILY DAILY τo ŤΩ ŤΩ DAILY TOTAL COUNT HOUR DATE <u>DAY</u> 17:00 16:00 s 88 40 15:00 233 S 12:00 М 17:00 32 34 48 17:00 W 17:00 17 53 261 324 363 355 142 17:00 F 16:00 s 15:00 57 12 13 14 15 15:00 313 75 M T 17:00 17:00 W 17:00 17:00 14 7 17 42 12 175 F 12 17:00 S 13:00 17:00 17:00 21 22 74 17:00 w 14 17 7 15 17:00 Т 17:00 15:00 24 25 S a 11:00 S 136 12:00 М 15:00 15:00 w 15 16:00 T 15:00 14:00 11:00 AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon) ADT 104 176 175 181 206 229 224 239 298 364 403 279 170 ESTIMATED (one way)
 WEEKDAYS Counted
 WEEKDAY HOURS
 AVERAGE WEEKDAY HOURS High Hour % of Day 444
 Axie Adj. Factor 403
 HOURS Counted ROUTE/RD #: CR0180 ROAD NAMEANDERSON HILL R FROM: WESTCHESTER TO:SR 120 COUNTY: WESTCHESTER

CURRENT SITE COUNTS

TRINITY PRESBYTERIAN CHURCH, 526-530 ANDERSON HILL ROAD, PURCHASE, NY - (#823.000) FIELD DATA SUMMARY - Trinity Church at Current Location

	Date	Number of Cars	Number of Cars Number of People	Vehicle Occupancy	% Members	% Members % Stay for Class
	3/30/2014	89	182	2.68	75	09
	4/6/2014	73	187	2.56	71	99
Holiday (Palm Sunday)	4/13/2014	51	140	2.75	65	59
Holiday (Easter)	4/20/2014	89	214	3.15	74	0
Average		65.00	180.75	2.79	71.25	46.25
Average without Holiday		70.50	184.50	2.62	73.00	63.00

		cupancy \$ //30/2014	urvey		
	Driver's Last Name	Zip Code	Number of People in Car:	Are you: Member (M), Regular Attender (RA), Visitor (V)	Will you Stay for Classes after the Service? (Y/N)
		10707	2	М	Υ
		10583	3	M	N
		10580	1	M	N
,		10583	4	RA	N
		10591	4	М	Υ
		10580	4	RA	Υ
1		10538	1	М	Υ
		10704	1	R A	N
		10708	4	M	Υ
0	The state of the s	10803	5	M	Υ
1		10604	1	M	N
2		10580	2	RA	N
3		06897	3	R A	N
4	the second of the second of the second	10538	1	RA	N
5		10580	1	RA	N
6		10707	2	M	Y
7		06902	2	M	Υ
8	Name and Address of the Owner, where the Party of the Par	10960	2	M	Υ
9		10512	1	M	Υ
0		10805	1	М	Υ
1		10573	4	RA	Υ
2		10057	4	M	Y
3		10607	1	RA	Y
4		10583	5	RA	N
5		10580	1	RA	Ϋ́
6		10606	1	M	N
7		10536	2	M	Y
8		10580	4	M	Ý
9		10510	5	 М	N
0		10528	1	 М	Y
1		10801	3	 М	Ϋ́
2		06840	4	M	Ϋ́
3		10598	4		N
4		10580	1	M M	Ϋ́
5		10580	1	M	, N
5		10606	5	M	Y
7		06830	3	RA	N N
, B		10580	2	M M	N
9		10580	4	M	Y
)		10528			
ı 1		10801	4 2	M M	N
2		10567	3	RA	N
3					N
		10577	2	M	Y
1		10803	4	RA M	Y
5		10604	5	M	Y
		10580	4	M	Y
7		10805	3	M	Y
3 1		10803	3	M	N
)		16807	3	RA	Y
)		10577	5	M	N
		06877 10708	1 4	M M	N Y
2					



	68	2.676470588	0.75	0.60
	(Cars)	(People/Car)	(% of Members) (% Stay f	or Class)
Total Numbe	r of People:	182		

Total	%
7	11
33	50
4	6
18	27
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66	,
	7 33 4 18 3 0 1

				byterian Church	
				pancy Survey	
			Aprı	16, 2014	
		Zip	Number of	Are you: Member (M), Regular	Will you Stay for
	Driver's Last Name	Code	People in Car:	Attender (RA), Visitor	Classes after the
		Code	reopie in cur.	(V)	Service? (Y/N)
1		10512	1	M	Y
2		10580	2	М	Y
3		10606	4	M	Y
4		10960	2	М	Υ
5		10538	1	М	Υ
6		10607	1	RA	Υ
7		10583	2	М	N
8		10573	4	RA	N
9		10580	2	М	N
10		10803	3	M	Υ
11		10580	2	М	Υ
12		10604	5	M	N
13		10580	2	М	N
14		16807	3	RA	N
15		10708	3	М	Y
16		10577	5	M	N
17		10580	1	M	Υ
18		10528	1	М	Υ
19		10530	4	М	Υ
20		10604	1	M	N
21		10709	3	RA	N
22		06877	1	M	N
23		10803	5	М	Υ
24		10533	1_	M	Y
25		10533	5	M	Y
26		10573	1	M	Y
27		10704	1_	RA	N
28		10533	2	RA	Y
29		10566	3	M	Y
30		06902	1	M	Y
31		10536	2	M	Y
32	AND RESIDENCE OF THE PARTY OF T	10580	2	M	N
33		06840	3	M	Y
34		10510	5	M	N
35		10580	1	M	N
36		10580	4	M	Y
37		06902	1	M	Y
38		10580	1	RA	Y
39		10920	2	V	N
40		10803	4	RA M	Y
41		10573	1	M	Y
42		10577	2	M	Y
43		06897	4	RA DA	N
44		10573	4	RA M	Y
45		10580	4	M	Y
46		10562	3	V	Y
47		10577	3	M	N
48		10573	2	RA M	Y
49		10583	4	M	N
50		10805	1	M	Y
51		10057	4	M	Y
52		07078	4	V	Y
53		10573	2	RA	N
54		10801	3	М	Y
55		10552	2	M	Y
56		06830	3	RA	N

57	10528	1	M	Υ
58	10538	5	M	Υ
59	10538	4	M	Υ
60	10701	3	M	Y
61	10538	1	М	Y
62	10570	2	M	Y
63	10601	2	RA	N
64	10536	3	M	Υ
65	10580	2	RA	N
66	10583	4	RA	N
67	10583	1	RA	N
68	10708	3	М	Y
69	10504	2	М	Υ
70	05880	1	М	N
71	10707	5	М	Υ
72	10580	1	М	Υ
73	10580	4	RA	Υ

73	2.561643836	0.71	0.66
(Cars)	(People/Car)	(% of Members) (% Stay for	Class)
Total Number of People:	187		

Notes:	Total %	
#1 = Coming from the North on NYS Route 120	8 11	
#2 = Coming from the South on NYS Route 120	32 46	
#3 = Coming from the East on Anderson Hill Road	6 9	
#4 = Coming from the West on Anderson Hill Rolld	19 27	
#5 - Coming from the South on Limitaln Avenue	4 6	
#6 = Coming out of SUNY Purchase	0 0	
#7 = Coming out of Harrows Lane	1 1	
	70	

Trinity Presbyterian Church							
	Car Occupancy Survey						
<u> </u>	4/13/2014						
1		Zip	Number of	Are you: Member (M), Regular	Will you Stay for		
l .	Driver's Last Name	Code	People in Car:	Attender (RA), Visitor	Classes after the		
				(V)	Service? (Y/N)		
1		10562	1	V	N		
2		10704	1	V	N		
3		10538	2	M	Υ		
4		10803	5	М	Υ		
5		10580	4	М	Υ		
6		10528	1	M	Υ		
7		10960	2	М	Υ		
8		10533	2	М	N		
9		10580	1	RA	Υ		
10		10605	2	M	Υ		
11		10803	2	M	N		
12		06897	4	RA	N		
13		10583	4	M	N		
14		10514	4	М	Υ		
15		10801	2	М	Υ		
16		06877	1	М	N		
17		10601	2	RA	N		
18		10593	4	RA	Υ		
19		10567	1	RA	N		
20		10577	2	М	Υ		
21		10583	5	RA	N		
22		10528	1	М	Υ		
23		10504	2	М	Υ		
24		10803	4	RA	Υ		
25		10580	4	RA	Υ		
26		10536	2	М	Υ		
27		10580	2	M	N		
28		10530	4	М	N		
29		06902	2	М	Υ		
30		10805	1	М	Υ		
31		10566	2	М	Υ		
32		06460	4	M	Υ		
33		10510	4	M	N		
34		10606	1	М	N		
35		10701	3	М	Υ		
36		06830	3	RA	N		
37		10577	5	М	Y		
38		10805	3	М	Υ		
39		10573	2	V	Υ		
40		10533	4	М	Υ		
41		10580	2	M	Y		
42		10708	4	М	Y		
43		10533	4	RA	N		

1	44	10580	1	RA	N	
	45	06831	1	RA	N	
	46	10577	3	М	N	
	47	10538	3 2	RA	Υ	1
	48	10538	5	M	Υ	1
	49	06807	3	RA	N	1
	50	10583	3 5 5	RA	N	1
	51	10606	5	М	Υ	1
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51	2.745098039	0.65 0.5	59
(Cars)	(People/Car)	(% of Members) (% Stay for Clas	s)
Total Number of People:	140		_ [

Trinity Presbyterian Church							
1	Car Occupancy Survey						
<u> </u>	4/29/2014						
	Driver's Last Name	Zip Code	Number of People in Car:	Are you: Member (M), Regular Attender (RA), Visitor (V)	Will you Stay for Classes after the Service? (Y/N)		
1		10510	6	M	N		
2		21210	4	V	N		
3		10580	4	М	N		
4		10591	4	M	N		
5		10960	2	M	N		
6		10566	3	M	N		
7		10580	2	M	N		
8		10580	4	M	N		
9		10573	1	M	N		
10		10538	6	M	N		
11		10573	3 3	M	N		
12		06830		RA	N		
13		10538	3	V	N		
14		10801	3	V	N		
15		06840	4	M	N		
16		10591	2	RA	N		
17		10803	5	M	N		
18		10510	1	M	N		
19		10583	4	M	N		
20		10536	3	М	N		
21		10577	3	М	N		
22		10708	3	М	N		
23		10607	3	RA	N		
24		10583	5	RA	N		
25		10803	4	RA	N		
26		10601	2 2	RA	N		
27		07456		RA	N		
28		10528	2	М	N		
29		10580	1	M	N		
30		10580	2	M	N		
31		10577	5	RA	N		
32		10801	3	M	N		
33		10552	2	M	N		
34		10598	4	M	N		
35		10606	7 1	M	N		
36		10580		RA	N		
37		06902	1	M	N		
38		10536	2	M	N		
39		10536	4	M	N		
40		06877	3	M	N		
41		10536	1_	M	N		
42		10538	5	M	N		
43		10567	1	RA	N		

44	10583	6	M	N
45	06831	2	RA	N
46	06820	4	RA	N
47	10520	3	M	N
48	10580	3	M	N
49	10604	6	V	N
50	10577	5	М	N
51	10708	4	M	N
52	10573	2	RA	N
53	10805	1	М	N
54	10514	1	М	N
55	10701	3	М	N
56	10514	3	M	N
57	10580	5	M	N
58	10512	1	М	N
59	10580	1	М	N
60	10707	5	М	N
61	10580	5	М	N
62	10577	4	M	N
63	10533	2	RA	N
64	06880	2	M	N
65	10805	5	M	N
66	10504	2	M	N
67	10566	3	М	N
68	10803	3	М	N
				ļ

 58
 3.147058824
 0.74
 0.00

 (Cars)
 (People/Car)
 (% of Members) (% Stay for Class)

 Total Number of People:
 214

STD INFORMATION

			Direction Coming From
06307	121 Cat Rock Rd.	??	??
06460	14 Central Avenue	East, I-95 or Merritt, Milford	2 10.5
06807	9 Kent Place	East, I-95, Cos Cob	*
06830	29 Woodland Drive	East, I-95 or local roads, Greenwich	2
06831	301 West Lyon Farm Drive	Southeast, local roads (King Street), Greenwich	1
06831	301 West Lyon Farm Drive	Southeast, local roads (King Street), Greenwich	
06831	301 West Lyon Farm Drive	Southeast, local roads (King Street), Greenwich	
06840	34 Louise's Lane	East, Merritt, New Canaan East, I-95, Old Greenwich	-
06870 06877	4 Lockwood Avenue 12 Abbott Avenue	Northeast, I-684, Ridgefield	1
06877	124 Limestone Rd	Northeast, 1-684, Ridgefield	1
06877	65 Revere Drive	Northeast, I-684, Ridgefield	1
06878	3 Apple Tree Lane	East, I-95, Riverside	2
06880	55 Easton Road	East, Merritt, Westport	4
06883	10 Sunset Drive	East, Merritt, Weston	
06902	1 West Hill Road	East, I-95 or Merritt, Stamford	1 (82)
06902	1 West Hill Road	East, I-95 or Merritt, Stamford	2:05:
06903	1090 Sunset Road	East, Merritt, Stamford	
10465	6 Pennyfield Avenue, Quarters 8	South, Hutch, Throggs Neck	1
10471	4705 Henry Hudson Parkway #11-L	South, Hutch, Riverdale	1
10475	120 Alcott Place, Apt. 14C	South, Hutch, Co-Op City North, I-684, North Castle	-
10504 10504	512 Bedford Road 52 Byram Ridge Road	North, 1-684, North Castle	1
10504	57 Cox Avenue	North, 1-684, North Castle	ī
10504	61 High Street	North, I-684, North Castle	1
10507	2 Pine Road, Apt. 1	North, I-684, Bedford Hills	1
10510	325 Hardscrabble Road	Northwest, I-287 to Anderson, Briarcliff	4
10510	369 Long Hill Rd	Northwest, I-287 to Anderson, Briarcliff	
10510	369 Long Hill Rd, East	Northwest, I-287 to Anderson, Briarcliff	*
10510	70 Holly Place	Northwest, I-287 to Anderson, Briarcliff	4
10512	1502 Nutmeg Drive	North, I-684, Carmel	2
10512	48 Union Road	North, I-684, Carmel	1
10512	48 Union Road	North, I-684, Carmel	i i
10514	67 Orchard Ridge Road	North, King Street (NYS 120), Chappaqua North, King Street (NYS 120), Chappaqua	1
10514 10520	76 Further Lane P.O. Box 233	Northwest, I-287 to Anderson, Croton-On-Hudson	-
10520	177 Broadway	Southwest, I-287 to Anderson, Dobbs Ferry	- 4
10523	32 Woodside Avenue	West, I-287 to Anderson, Elmsford	4
10528	11 Franklin Lane	South, Hutch, Harrison (North Street)	2
10528	11 Glendale Road	South, Hutch, Harrison (Mamaroneck Avenue)	4
10528	13 Croton Avenue	South, Hutch, Harrison	
10528	149 Halstead Ave #6	South, Hutch, Harrison (North Street)	
10528	154 Fremont St	South, Hutch, Harrison (North Street)	
10528	2 Trails End	South, Hutch, Harrison (North Street)	12 - 23
10528	212 Osborn St	South, Hutch, Harrison (North Street)	1
10528	26 Parsons Street	South, Hutch, Harrison (North Street)	1
10528 10528	3 Meadow Road 4 Highfield Rd	South, Hutch, Harrison (North Street) South, Hutch, Harrison (North Street)	4
10528	4 riightieta ka 599 Harrison Avenue	South, Hutch, Harrison (North Street)	
10528	5 Jean Lane	West, I-287 to Anderson, Hartsdale	
10530	61 Poe Street	West, I-287 to Anderson, Hartsdale	- 4
10533	13 Circle Drive	West, I-287 to Anderson, Irvington	4
10533	17 Main Street, #2	West, I-287 to Anderson, Irvington	1 (4)
10533	20 Hillside Terrace	West, I-287 to Anderson, Irvington	
10533	20 Mount Pleasant Lane	West, I-287 to Anderson, Irvington	15
10533	22 Mt. Pleasant Lane	West, I-287 to Anderson, Irvington	
10533	22 Mt. Pleasant Lane	West, I-287 to Anderson, Irvington	
10533	241 Taxter Road	West, I-287 to Anderson, Irvington	300
10533	25 Carla Lane	West, I-287 to Anderson, Irvington West, I-287 to Anderson, Irvington	3
10533	25 Carla Lane	North, I-684, Katonah	1
10536 10536	11 Autumn Ridge Court 15 Mohawk Trail	North, I-684, Katonah	1
10538	106 Chatsworth Ave	South, Hutch, Larchmont	10
10538	124 Murray Avenue	South, Hutch, Larchmont	
10538	3 Margaret Lane	South, Hutch, Larchmont	1
10538	37 Larchmont Avenue	South, Hutch, Larchmont	1 = 1 = 1 = 1 = 2
10538	5 Oakdale Rd	South, Hutch, Larchmont	
10538	5 Winans Street	South, Hutch, Larchmont	
10538	73 Fernwood Road	South, Hutch, Larchmont	4
10538	92 Edgewood Avenue	South, Hutch, Larchmont	120
10538	95 Echo Lane	South, Hutch, Larchmont	

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10543	1477 Pine Knoll Lane	South, Hutch, Mamaroneck	2
10543	151 Fenimore Rd.	South, Hutch, Mamaroneck	2
10543	211 Beach Ave	South, Hutch, Mamaroneck	ž.
10543	450 N. Barry Ave.	South, Hutch, Mamaroneck	2
10543	490 Bleeker Ave #61	South, Hutch, Mamaroneck	3
		South, Hutch, Mamaroneck	3
10543	915 Skibo Lane		1
10552	269 Rich Ave. 3FL	South, Hutch, Mt. Vernon	1
10552	32 E. Devonia Avenue, #3	South, Hutch, Mt. Vernon	
10562	18 Pocantico Rd	Northwest, 1-287 to Anderson, Ossining	1
10562	37 Donald Lane	Northwest, I-287 to Anderson, Ossining	#
10562	45 Belleview Avenue	Northwest, I-287 to Anderson, Ossining	4
10566	215 Walnut Street	Northwest, I-287 to Anderson, Peekskill	
10566	P.O. Box 2414	Northwest, I-287 to Anderson, Peekskill	#
10567	9 Oregon Road	Northwest, I-287 to Anderson, Cortlandt	
10570	42 Tamarack Way	North, King Street (NYS 120), Pleasantville	1
10573	19 Heirloom Lane	Northeast, King Street to Anderson, Rye Brook	-
10573	38 Hillandale Road	Southeast, Hutch to Lincoln, Rye Brook	-
			- 4
10573	411 Westchester Ave	South, Lincoln Avenue, Port Chester	-
10573	411 Westchester Ave., Apt. 5-N	South, Lincoln Avenue, Port Chester	
10573	63 Leicester Street	South, Lincoln Avenue, Port Chester	
10574	P.O. BOx 281	??	44
10576	338 Stone Hill Road	North, I-684, Pound Ridge	1
10577	17 Harrows Lane	Purchase, Come out of Harrows Lane (Counting)	7
10577	40 Brae Burn Drive	Northwest, Purchase St. from the north, Purchase	1
10577	6 Fairway Drive	Northwest, Purchase St. from the north, Purchase	1
10577	735 Anderson Hill Road, Mailbox 2607	SUNY Purchase	6
10580	1 Barron Place	South, Hutch, Rye	y y
	1 Wards Park West	South, Hutch, Rye	3
10580			2
10580	10 Puritan Woods Road	South, Rt 120, Rye	3
10580	102 Highland Road	South, Rt 120, Rye	5
10580	121 Forest Avenue	South, 287, Rye	
10580	15 Fairlawn Street	South, Hutch, Rye	*
10580	16 Seville Avenue	South, Hutch, Rye	2
10580	17 Kervan Rd	South, Hutch, Rye	21
10580	170 Grace Church	South, 287, Rye	2
10580	18 Davis Avenue	South, 287, Rye	2
10580	2 Adelaide St	South, Hutch, Rye	2
10580	239 Purchase Street	South, Rt 120, Rye	3
		South, 787, Rye	3
10580	26 Davis Avenue		3
10580	32 Seville Avenue	South, Hutch, Rye	
10580	347 Oakland Beach Avenue	South, Hutch, Rye	5
10580	370 Oakland Beach Ave	South, Hutch, Rye	5
10580	429 Forest Avenue	South, Hutch, Rye	T
10580	5 Holly Lane	South, 287, Rye	*
10580	5 Rockridge Road	South, 287, Rye	2
10580	590 Polly Park Road	South, Hutch, Rye	#
10580	60 Clinton Avenue	South, Hutch, Rye	T
10580	63 Franklin Ave	South, Hutch, Rye	2
10580	66 Milton Road, #F41	South, 287, Rye	3
	,	South, 287, Rye	3
10580	71 Island Drive		
10580	9 Beck Ave	South, Hutch, Rye	
10580	P.O. Box 561	South, Hutch, Rye	
10580	Two Alton Terrace	South, Hutch, Rye	
10583	100 Garden Road	West, Anderson Hill Road, Scarsdale	
10583	101 Garden Road	West, Anderson Hill Road, Scarsdale	
10583	132 Anderson Ave.	South, Hutch, Scarsdale	
10583	141 Plymouth Drive	South, Hutch, Scarsdale	
10583	20 Sprain Valley Road	Southwest, I-287 to Anderson, Scarsdale	
10583	21 Castle Walk	Southwest, I-287 to Anderson, Scarsdale	4
10583	25 Barclay Rd.	Southwest, I-287 to Anderson, Scarsdale	- 4
10583	26 River Road	Southwest, I-287 to Anderson, Scarsdale	
10583	500 Central Park Avenue, Apt. 223	Southwest, I-287 to Anderson, Scarsdale	
10583	500 Central Park Avenue, Apt. 223	Southwest, I-287 to Anderson, Scarsdale	
	7 Deerfield Lane	South, Hutch, Scarsdale	
10583			_
10583	78 Dorset Rd.	Southwest, I-287 to Anderson, Scarsdale	
10583	8 Highview Drive	Southwest, I-287 to Anderson, Scarsdale	
10583	81 Edgemont Road	Southwest, I-287 to Anderson, Scarsdale	
10591	129 Merlin Avenue	Northwest, I-287 to Anderson, Sleepy Hollow	
10591	281 South Broadway	Northwest, I-287 to Anderson, Sleepy Hollow	
10591	67 Putnam Ave	Northwest, I-287 to Anderson, Sleepy Hollow	
10601	27 Barker Ave., Apt. 713	West, Anderson, White Plains	
10603	103 Clinton St.	West, I-287 to Anderson, White Plains	

10603	103 Clinton Street	West, I-287 to Anderson, White Plains
10603	305 Woodland Hills Road	West, I-287 to Anderson, White Plains
10603	46 Crane Avenue	West, I-287 to Anderson, White Plains
10603	70 Virginia Road, Apt. 20B	West, I-287 to Anderson, White Plains
10604	1446 Old Orchard Street	West, I-287 to Anderson, West Harrison
	1521 Old Orchard St.	West, I-287 to Anderson, West Harrison
10604		
10604	32 Madison Street	West, Anderson, West Harrison
10604	32 Madison Street	West, Anderson, West Harrison
10605	64 Bayne Place	South, Anderson, White Plains
10605	8 Rutherford Avenue, Apt. 3A	West, Anderson, White Plains
10605	9 Gabriel Court	West, Anderson, White Plains
10605	9 Gabriel Court	West, Anderson, White Plains
10606	10 Cobb Avenue	Southwest, Anderson, White Plains
10606	10 Ridge View Avenue	Southwest, Anderson, White Plains
10606	505 Central Avenue	Southwest, Anderson, White Plains
10607	41 Shirley Lane	West, I-287 to Anderson, White Plains
10701	8 Victoria Lane	Southwest, I-287 to Anderson, Yonkers
10704	198 Lincoln Avenue	Southwest, Hutch, Yonkers
10706	10 Riverpointe Road	Southwest, I-287 to Anderson, Yonkers
10706	133 Fairmont Avenue	Southwest, Hutch, Yonkers
10706	52 Columbia Ave. #1	Southwest, I-287 to Anderson, Hastings-On-Hudson
10706	538 Farragut Parkway	Southwest, I-287 to Anderson, Hastings-On-Hudson
		Southwest, I-287 to Anderson, Hastings-On-Hudson
10706	538 Farragut Parkway	
10706	65 Hillside Avenue	Southwest, I-287 to Anderson, Hastings-On-Hudson
10706	85 Summit Dr	Southwest, I-287 to Anderson, Hastings-On-Hudson
10707	14 Westview Avenue, Apt. 606	South, Hutch, Tuckahoe
10707	50 Columbus Avenue, #1014	South, Hutch, Tuckahoe
10707	6 Hollywood Avenue	South, Hutch, Tuckahoe
10707	83 Highview Avenue	South, Hutch, Tuckahoe
10708	23 Sturgis Road	South, Hutch, Bronxville
10708	245 Parkview Ave. Apt 5H	South, Hutch, Bronxville
10708	29 Elm Lane	South, Hutch, Bronxville
10708	793 Palmer Rd	South, Hutch, Yonkers
10709	1249 California Rd. #1A	South, Hutch, Eastchester
10709	2 Waterside Close	South, Hutch, Eastchester
10801	146 Mt. Joy Pl	South, Hutch, New Rochelle
10801	163 Coligni Ave.	South, Hutch, New Rochelle
10801	163 Coligni Avenue	South, Hutch, New Rochelle
	-	South, Hutch, New Rochelle
10801	208 Barnard Road	
10801	2333 Palmer Ave, Apt 4B	South, 95 to Hutch, New Rochelle
10801	40 Memorial Highway #33C	South, 95 to Hutch, New Rochelle
10801	8 Rockledge Place	South, Hutch, New Rochelle
10803	111 Townsend Ave	South, Hutch, Pelham Manor
10803	111 Townsend Ave	South, Hutch, Pelham Manor
10803	1111 Clay Avenue	South, Hutch, Pelham Manor
10803	222 Carol Avenue	South, Hutch, Pelham
10803	278 Ancon Avenue	South, Hutch, Pelham
10803	321 Eighth Ave.	South, Hutch, Pelham
10803	482 Murray Street	South, Hutch, Pelham
10803	517 Pelhamdale Avenue	South, Hutch, Pelham
10804	21 Ridge Rd	South, Hutch, New Rochelle
10804	81 Woodlawn Avenue	South, Hutch, New Rochelle
10805	300 Pelham Road, Apt. 8A	South, 95 to Hutch, New Rochelle
10805	4 Shore Club Drive	South, 95 to Hutch, New Rochelle
10805	463 Pelham Road, Apt. 3-3C	South, 95 to Hutch, New Rochelle
10805	48 Park Ridge Avenue	South, 95 to Hutch, New Rochelle
	_	Northwest, I-287 to Anderson, Highland Falls
10928	36 Cozzens Ave	Northwest, I-287 to Anderson, New City
10956	22 Collingswood Road	24
10960	38 South Boulevard	Northwest, I-287 to Anderson, Nyack
10996	543A Winans Road	Northwest, I-287 to Anderson, West Point
11021	117 Shoreward Dr	South, Hutch, Great Neck
19111	716 Ripley St.	South, Hutch, Philadelphia
19380	1525 Ulster Way	South, Hutch, West Chester PA
19446	717 S. Towamencin Ave	South, Hutch, Lansdale PA
21236	17 Mopec Circle apt. D	South, Hutch, Nottingham MD
94121	685 20th Avenue	San Fancisco
94598	2613 Mantilla Corte	xx
100591	373 Martling Ave.	XX
06840	158 Deep Valley Road	xx 💳

Votes:	Total %
#1 = Coming from the North on NYS Route 120	19 9
F2 = Coming from the South on NYS Route 120	102 50
n2 - Coming from the East on Anderson Hill Road	4 2
64 - Coming from the West on Anderson Hill Road	67 33
15 - Coming Born the South up I walls Available	9 4
#6 = Coming out of SUNY Purchase	1 0
#7 = Coming out of Harrows Lane	1 0
	203

ACCIDENT DATA REQUEST LETTER



FREDERICK P. CLARK ASSOCIATES. INC.

PLANNING, TRANSPORTATION, ENVIRONMENT AND DEVELOPMENT FAIRFIELD, CONNECTICUT RYE, NEW YORK

DAVID H. STOLMAN

AICP, PP PRESIDENT

MICHAEL A. GALANTE

EXECUTIVE VICE PRESIDENT

350 THEO, FREMD AVE. RYE, NEW YORK 10580 914 967-6540 FAX: 914 967-6615

CONNECTICUT 203 255-3100

HUDSON VALLEY 845 297-6056

LONG ISLAND 516 364-4544

www.fpclark.com

email@fpclark.com

VIA U.S. MAIL

March 27, 2014

Ms. Joan Maybee Administrative Services Division 50 Wolf Road 6th Floor

Albany, New York 12232

Request for Accident Data - NYS Route 120 (Purchase Subject:

Street) at Anderson Hill Road, Purchase, New York

Dear Ms. Maybee:

Our Firm has been retained to conduct a Traffic Access and Impact Study for a project located in Purchase, New York. In order to complete our analysis we are requesting accident reports for the most recent three full years available (January 1, 2011 to December 31, 2013) at the following intersection:

NYS Route 120 (Purchase Street) at Anderson Hill Road.

Enclosed please find a map showing the nodes and links mentioned above. I appreciate your assistance in this matter. If you have any questions please direct them to me at (914) 967-6540.

Sincerely,

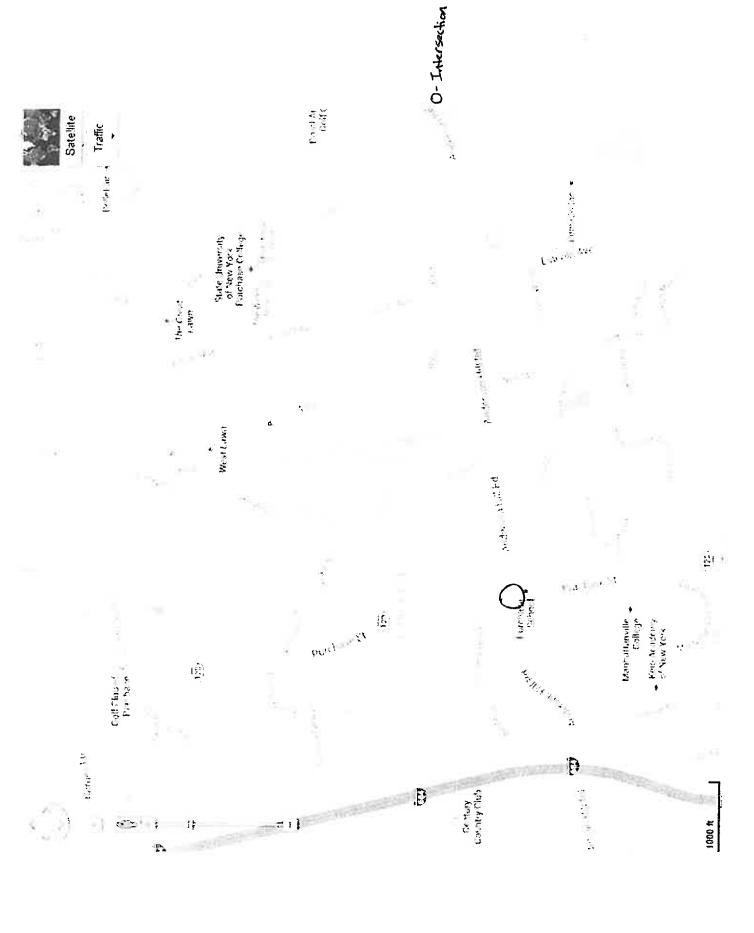
Steven T. Cipolla

Herr Tiple

Associate/Transportation

Enclosure

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PLANNING, TRANSPORTATION, ENVIRONMENT AND DEVELOPMENT RYE, NEW YORK FAIRFIELD, CONNECTICUT

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Chief Anthony Marraccini Town of Harrison Police Department 650 North Street Harrison, New York 10528

Subject: Request for Accident Data - Anderson Hill Road, between

NYS Route 120 (Purchase Street) and Lincoln Avenue,

Purchase, New York

Dear Chief Marraccini:

March 24, 2014

Our Firm has been retained to conduct a Traffic Access and Impact Study for a project located in Purchase, New York. In order to complete our analysis we are requesting accident reports for the most recent three full years available (January 1, 2011 to December 31, 2013) at the following links:

 Anderson Hill Road, between NYS Route 120 (Purchase Street) and Lincoln Avenue (including all intersections except NYS Route 120).

Enclosed please find a map showing the nodes and links mentioned above. I appreciate your assistance in this matter. If you have any questions please direct them to me at (914) 967-6540.

Sincerely,

Steven T. Cipolla

Associate/Transportation

Han T. Cirla

Enclosure

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CAPACITY ANALYSIS WORKSHEETS

CAPACITY ANALYSIS WORKSHEETS

Existing Conditions

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		ሻ	4		ሻ	^	
Volume (vph)	40	254	194	66	91	48	66	177	63	80	335	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12	10	11	11	10	10	10
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	150		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.946			0.968			0.961			0.991	
FIt Protected		0.996			0.984		0.950			0.950		
Satd. Flow (prot)	0	1600	0	0	1571	0	1636	1603	0	1560	1689	0
FIt Permitted		0.957			0.685		0.338			0.503		
Satd. Flow (perm)	0	1537	0	0	1093	0	582	1603	0	826	1689	0
Right Turn on Red			No			Yes			No			No
Satd. Flow (RTOR)					23							
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		368			659			224			211	
Travel Time (s)		8.4			15.0			5.1			4.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	15%	8%	7%	17%	13%	17%	3%	8%	16%	8%	3%	20%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	45	285	218	74	102	54	74	199	71	90	376	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	548	0	0	230	0	74	270	0	90	400	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		7			3		. 2	5		6	1	
Permitted Phases	7			3			5			1		
Detector Phase	7	7		3	3		2	5		6	1	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		3.0	10.0		3.0	10.0	
Minimum Split (s)	8.0	8.0		8.0	8.0		8.0	15.0		8.0	24.0	
Total Split (s)	61.0	61.0		61.0	61.0		10.0	30.0		13.0	33.0	
Total Split (%)	58.7%	58.7%		58.7%	58.7%		9.6%	28.8%		12.5%	31.7%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lag	Lead		Lag	Lead	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)		32.3			32.3		31.8	26.8		36.3	29.1	
Actuated g/C Ratio		0.41			0.41		0.40	0.34		0.46	0.37	

Lane GroupEBLEBv/c Ratio0.8Control Delay37.Queue Delay0.Total Delay37.	• 😽	•	←	*	4	†	1	-	1	1
Control Delay 37. Queue Delay 0. Total Delay 37.	T EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay 0. Total Delay 37.	7		0.50		0.25	0.50		0.20	0.65	
Total Delay 37.	1		19.2		20.6	29.6		18.4	31.2	
•	0		0.0		0.0	0.0		0.0	0.0	
	1		19.2		20.6	29.6		18.4	31.2	
LOS)		В		С	С		В	С	
Approach Delay 37.	1		19.2			27.7			28.9	
Approach LOS 1)		В			С			С	
Queue Length 50th (ft) 24	7		75		20	111		24	168	
Queue Length 95th (ft) 37)		132		59	237		69	#384	
Internal Link Dist (ft) 28	3		579			144			131	
Turn Bay Length (ft)					150			150		
Base Capacity (vph) 112	1		806		304	543		466	620	
Starvation Cap Reductn)		0		0	0		0	0	
Spillback Cap Reductn)		0		0	0		0	0	
Storage Cap Reductn)		0		0	0		0	0	
Reduced v/c Ratio 0.49)		0.29		0.24	0.50		0.19	0.65	

Intersection Summary

Area Type: Other

Cycle Length: 104

Actuated Cycle Length: 79.2

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.87 Intersection Signal Delay: 30.0 Intersection Capacity Utilization 63.9%

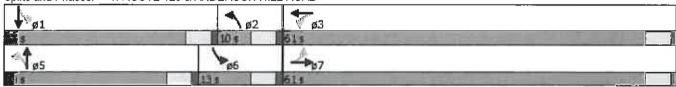
Intersection LOS: C ICU Level of Service B

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: ROUTE 120 & ANDERSON HILL ROAD



	-	7	1	4		1
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1>		ሻ	↑	**	
Volume (vph)	363	28	66	170	13	169
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	10	14	12	12
Grade (%)	0%			0%	0%	-
Storage Length (ft)	•	0	200	0.0	0	0
Storage Lanes		Ŏ	1		1	0
Taper Length (ft)		·	25		25	·
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00	1.00		1.00	1.00
Frt	0.990				0.875	
Flt Protected	0.000		0.950		0.996	
Satd. Flow (prot)	2029	0	1652	1987	1623	0
Fit Permitted	LULU	U	0.477	1001	0.996	U
Satd. Flow (perm)	2029	0	829	1987	1623	0
Right Turn on Red	2023	Yes	029	1901	1023	No
•	5	168				NO
Satd. Flow (RTOR)	5 30			20	20	
Link Speed (mph)				30	30	
Link Distance (ft)	183			253	903	
Travel Time (s)	4.2			5.8	20.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)	0.05	0.05	0.05	0.05	0.05	0.05
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	382	29	69	179	14	178
Shared Lane Traffic (%)						
Lane Group Flow (vph)	411	0	69	179	192	0
Turn Type	NA		pm+pt	NA	Prot	
Protected Phases	5		6	2	3	
Permitted Phases			2			
Detector Phase	5		6	2	3	
Switch Phase						
Minimum Initial (s)	20.0		5.0	20.0	5.0	
Minimum Split (s)	26.0		11.0	26.0	31.0	
Total Split (s)	40.0		11.0	51.0	39.0	
Total Split (%)	44.4%		12.2%	56.7%	43.3%	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max	None	
Act Effct Green (s)	54.0		62.8	62.8	15.2	
Actuated g/C Ratio	0.60		0.70	0.70	0.17	
Actuated G/C Ratio	0.00		0.70	0.70	V. 17	

		*	1	←	4	1
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
v/c Ratio	0.34		0.11	0.13	0.70	
Control Delay	11.5		5.5	4.9	48.3	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	11.5		5.5	4.9	48.3	
LOS	В		Α	Α	D	
Approach Delay	11.5			5.1	48.3	
Approach LOS	В			Α	D	
Queue Length 50th (ft)	114		10	25	104	
Queue Length 95th (ft)	205		26	55	161	
Internal Link Dist (ft)	103			173	823	
Turn Bay Length (ft)			200			
Base Capacity (vph)	1218		624	1386	595	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.34		0.11	0.13	0.32	
Intersection Summary						

intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:WBTL and 5:EBT, Start of Yellow

Natural Cycle: 70

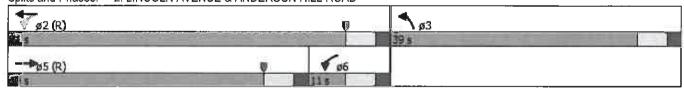
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70 Intersection Signal Delay: 17.9 Intersection Capacity Utilization 51.1%

Intersection LOS: B
ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2: LINCOLN AVENUE & ANDERSON HILL ROAD



	<i>></i>	→	+	4	-	4
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		4	1		¥	
Volume (vph)	7	360	204	3	3	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	14	14
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.998		0.894	
Flt Protected		0.999			0.989	
Satd. Flow (prot)	0	1799	1797	0	1757	0
Flt Permitted		0.999			0.989	
Satd. Flow (perm)	0	1799	1797	0	1757	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		659	1283		228	
Travel Time (s)		15.0	29.2		5.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	8	400	227	3	3	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	408	230	0	14	0
Sign Control		Free	Free		Stop	
Intersection Summary						

Area Type:

Other

Control Type: Unsignalized

Intersection Capacity Utilization 34.6%

Analysis Period (min) 15

ICU Level of Service A

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Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations Volume (veh/h) Sign Control	7	360 Free	204 Free	3	3 Stop	10	
Grade		0%	0%		0%		
Peak Hour Factor Hourly flow rate (vph) Pedestrians Lane Width (ft) Walking Speed (ft/s) Percent Blockage	0.90 8	0.90 400	0.90 227	0.90 3	0.90	0.90 11	
Right turn flare (veh) Median type Median storage veh) Upstream signal (ft)		None 659	None				
pX, platoon unblocked vC, conflicting volume vC1, stage 1 conf vol vC2, stage 2 conf vol	230				644	228	
vCu, unblocked voi	230				644	228	
tC, single (s) tC, 2 stage (s)	4.1				6.4	6.2	
tF(s)	2.2				3.5	3.3	
p0 queue free %	99				99	99	
cM capacity (veh/h)	1338				435	811	
Direction, Lane #	EB 1	WB 1	SB 1				
Volume Total Volume Left	408 8	230 0	14 3				
Volume Right	Ō	3	11				
cSH	1338	1700	676				
Volume to Capacity	0.01	0.14	0.02				
Queue Length 95th (ft)	0	0	2				
Control Delay (s)	0.2	0.0	10.4				
Lane LOS	A 0.2	0.0	B				
Approach Delay (s) Approach LOS	0.2	0.0	10.4 B				
Intersection Summary							
Average Delay			0.4				
Intersection Capacity Utilization Analysis Period (min)	n		34.6% 15	IC	U Level o	f Service	A

Lanes, Volumes, Timings

TRINITY PRESBYTERIAN, PURCHASE, NY
20: PEPSICO DR.IVE/SUNY PURCHASE DR. & ANDERSON HILL ROAD

2014 EXISTING CONDITIONS, WEEKDAY AM PEAK HOUR

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ነ	个 个	7	ኻ	ተ ኈ		*	↑	7	ሻ	<u>\$</u>	7
Volume (vph)	306	211	15	2	140	43	5	i	3	24	6	91
ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	10	12	12	12	11	10	10	12	13	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		125	230		0	150		150	0		0
Storage Lanes	4		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95
Ped Bike Factor												
Frt			0.850		0.965				0.850		0.867	0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	3112	1334	1203	3201	0	1711	887	1478	1656	1471	1382
Flt Permitted	0.525			0.612			0.721			0.757		
Satd. Flow (perm)	918	3112	1334	775	3201	0	1298	887	1478	1320	1471	1382
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109		46				182		46	182
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		294			299			262			300	
Travel Time (s)		6.7			6.8			6.0			6.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	16%	13%	50%	10%	5%	2%	100%	2%	9%	2%	11%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	326	224	16	2	149	46	5	1	3	26	6	97
Shared Lane Traffic (%)												47%
Lane Group Flow (vph)	326	224	16	2	195	0	5	1	3	26	52	51
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6		5	2			3			7	
Permitted Phases	6		6	2			3		3	7		7
Detector Phase	1	6	6	5	2		3	3	3	7	7	7
Switch Phase												
Minimum Initial (s)	5.0	30.0	30.0	5.0	30.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	36.0	36.0	11.0	36.0		36.0	36.0	36.0	36.0	36.0	36.0
Total Split (s)	18.0	43.0	43.0	11.0	36.0		36.0	36.0	36.0	36.0	36.0	36.0
Total Split (%)	20.0%	47.8%	47.8%	12.2%	40.0%		40.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Recall Mode	None	C-Min	C-Min	None	C-Min		Max	Max	Max	Max	Max	Max
Act Effct Green (s)	48.0	45.8	45.8	35.1	30.1		30.0	30.0	30.0	30.0	30.0	30.0
Actuated g/C Ratio	0.53	0.51	0.51	0.39	0.33		0.33	0.33	0.33	0.33	0.33	0.33

20: PEPSICO DR.IVE/SUNY PURCHASE DR. & ANDERSON HILL ROAD 2014 EXISTING CONDITIONS, WEEKDAY AM PEAK HOUR

	1	-	*	•	←	*	1	†	1	1	↓	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.56	0.14	0.02	0.01	0.18		0.01	0.00	0.00	0.06	0.10	0.09
Control Delay	13.9	9.4	0.1	11.0	16.6		20.2	20.0	0.0	21.0	8.2	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.9	9.4	0.1	11.0	16.6		20.2	20.0	0.0	21.0	8.2	0.3
LOS	В	Α	Α	В	В		С	В	Α	С	Α	Α
Approach Delay		11.7			16.5			13.4			7.6	
Approach LOS		В			В			В			Α	
Queue Length 50th (ft)	136	24	0	1	31		2	0	0	10	2	0
Queue Length 95th (ft)	95	57	m0	4	55		10	4	0	28	28	0
Internal Link Dist (ft)		214			219			182			220	
Turn Bay Length (ft)	250		125	230			150		150			
Base Capacity (vph)	588	1583	732	326	1100		432	295	614	440	521	582
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.14	0.02	0.01	0.18		0.01	0.00	0.00	0.06	0.10	0.09

Intersection Summary

Area Type:

Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 12 (13%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 85

Control Type: Actuated-Coordinated

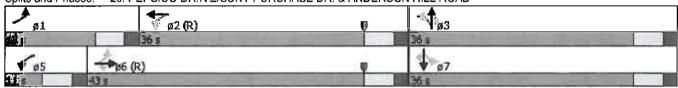
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 12.2
Intersection Capacity Utilization 64.9%

Intersection LOS: B
ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 20: PEPSICO DR.IVE/SUNY PURCHASE DR. & ANDERSON HILL ROAD



	۶	→	*	•	•	•	4	1	*	- 💃	Į.	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		7	†		74	4	
Volume (vph)	66	192	89	47	241	83	166	290	53	64	154	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12	10	11	11	10	10	10
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	150		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00		1.00		
Frt		0.965			0.970			0.977			0.973	
Flt Protected		0.991			0.994		0.950			0.950		
Satd. Flow (prot)	0	1678	0	0	1780	0	1620	1748	0	1652	1649	0
FIt Permitted		0.812			0.905		0.625			0.417		
Satd. Flow (perm)	0	1375	0	0	1621	0	1066	1748	0	724	1649	0
Right Turn on Red			No			Yes			No			No
Satd. Flow (RTOR)					27							
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		368			659			224			211	
Travel Time (s)		8.4			15.0			5.1			4.8	
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	3%	8%	9%	2%	2%	4%	2%	4%	2%	5%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	71	206	96	51	259	89	178	312	57	69	166	37
Shared Lane Traffic (%)						_						
Lane Group Flow (vph)	_ 0	373	0	_ 0	399	0	178	369	0	69	203	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	_	7			3		2	5		6	1	
Permitted Phases	7	_		3	_		5	_		1		
Detector Phase	7	7		3	3		2	5		6	1	
Switch Phase	0.0	0.0			2.0			40.0		0.0	40.0	
Minimum Initial (s)	3.0	3.0		3.0	3.0		3.0	10.0		3.0	10.0	
Minimum Split (s)	8.0	8.0		8.0	8.0		8.0	15.0		8.0	24.0	
Total Split (s)	36.0	36.0		36.0	36.0		10.0	24.0		10.0	24.0	
Total Split (%)	51.4%	51.4%		51.4%	51.4%		14.3%	34.3%		14.3%	34.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Mass	Nana		Ness	Na		Mess	N.4		Mess	K.A	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effet Green (s)		18.7			18.7		26.4	23.6		24.1	19.2	
Actuated g/C Ratio		0.32			0.32		0.46	0.41		0.42	0.33	

	•	-	7	•	-	4	4	†	*	-	Ţ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.84			0.74		0.33	0.52		0.18	0.37	
Control Delay		35.8			24.8		13.1	21.0		12.2	19.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		35.8			24.8		13.1	21.0		12.2	19.3	
LOS		D			С		В	С		В	В	
Approach Delay		35.8			24.8			18.4			17.5	
Approach LOS		D			С			В			В	
Queue Length 50th (ft)		118			112		31	106		11	52	
Queue Length 95th (ft)		207			192		86	#263		38	126	
Internal Link Dist (ft)		288			579			144			131	
Turn Bay Length (ft)							150			150		
Base Capacity (vph)		743			889		536	711		384	546	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.50			0.45		0.33	0.52		0.18	0.37	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 58

Natural Cycle: 55

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.84 Intersection Signal Delay: 23.9 Intersection Capacity Utilization 64.1%

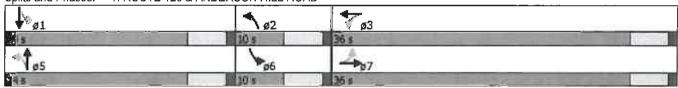
Intersection LOS: C ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

1: ROUTE 120 & ANDERSON HILL ROAD Splits and Phases:



	-	*	1	•	4	1
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	\$		ሻ		***	
Volume (vph)	275	27	191	368	22	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	10	14	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	***	0	200		0	0
Storage Lanes		Ō	1		1	0
Taper Length (ft)			25		25	•
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.988				0.886	
Flt Protected	0.000		0.950		0.992	
Satd. Flow (prot)	2024	0	1652	1987	1637	0
FIt Permitted	-4-1	J	0.481	,001	0.992	v
Satd. Flow (perm)	2024	0	836	1987	1637	0
Right Turn on Red	LVLT	Yes	000	1001	1001	No
Satd. Flow (RTOR)	5	103				NO
Link Speed (mph)	30			30	30	
Link Opeed (mph) Link Distance (ft)	183			253	903	
Travel Time (s)	4.2			5.8	20.5	
Confl. Peds. (#/hr)	4.4			J.0	20.0	
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%			
	2%			100%	100%	100%
Heavy Vehicles (%)		2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)	Δ0/			00/	Δ0/	
Mid-Block Traffic (%)	0%	00	000	0%	0%	400
Adj. Flow (vph)	299	29	208	400	24	133
Shared Lane Traffic (%)	200	^	000	400	407	^
Lane Group Flow (vph)	328	0	208	400	157	0
Turn Type	NA		pm+pt	NA	Prot	
Protected Phases	5		6	2	3	
Permitted Phases			2	-	•	
Detector Phase	5		6	2	3	
Switch Phase						
Minimum Initial (s)	20.0		5.0	20.0	5.0	
Minimum Split (s)	26.0		11.0	26.0	31.0	
Total Split (s)	32.0		33.0	65.0	31.0	
Total Split (%)	33.3%		34.4%	67.7%	32.3%	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max	None	
Act Effct Green (s)	55.9		70.4	70.4	13.6	
Actuated g/C Ratio	0.58		0.73	0.73	0.14	

	-	*	•	-	4	1
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
v/c Ratio	0.28		0.30	0.27	0.68	
Control Delay	11.9		7.7	6.6	53.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	11.9		7.7	6.6	53.2	
LOS	В		Α	Α	D	
Approach Delay	11.9			7.0	53.2	
Approach LOS	В			Α	D	
Queue Length 50th (ft)	90		32	67	92	
Queue Length 95th (ft)	176		106	178	148	
Internal Link Dist (ft)	103			173	823	
Turn Bay Length (ft)			200			
Base Capacity (vph)	1181		842	1457	426	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.28		0.25	0.27	0.37	
Intersection Summary						

Area Type: Other

Cycle Length: 96

Actuated Cycle Length: 96

Offset: 61 (64%), Referenced to phase 2:WBTL and 5:EBT, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

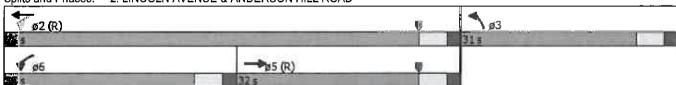
Maximum v/c Ratio: 0.68 Intersection Signal Delay: 15.1

Intersection Capacity Utilization 51.0%

Intersection LOS: B ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2: LINCOLN AVENUE & ANDERSON HILL ROAD



	1	→	←	4	-	1
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		<u></u> 4	1≽	•	¥	
Volume (vph)	9	278	373	1	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	14	14
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt					0.865	
Fit Protected		0.998				
Satd. Flow (prot)	0	1797	1801	0	1719	0
Flt Permitted		0.998				
Satd. Flow (perm)	0	1797	1801	0	1719	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		659	1283		228	
Travel Time (s)		15.0	29.2		5.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	10	299	401	1	0	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	309	402	0	1	0
Sign Control		Free	Free		Stop	
Intersection Summary						

Area Type:

Other

Control Type: Unsignalized Intersection Capacity Utilization 31.9%

Analysis Period (min) 15

ICU Level of Service A

5/8/2014 FREDERICK P. CLARK ASSOCIATES, INC. - MES

	۶	→	-	4	<u> </u>	4	1. ***
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations Volume (veh/h) Sign Control Grade	9	47 278 Free	373 Free	1	0 Stop	1	
Peak Hour Factor	0.93	0% 0.93	0% Q.93	0.93	0% 0.93	0.93	
Hourly flow rate (vph) Pedestrians Lane Width (ft) Walking Speed (ft/s) Percent Blockage Right turn flare (veh)	10	299	401	1	0.93	1	
Median type Median storage veh) Upstream signal (ft)		None 659	None				
pX, platoon unblocked vC, conflicting volume vC1, stage 1 conf vol vC2, stage 2 conf vol	402				720	402	
vCu, unblocked vol	402				720	402	
tC, single (s) tC, 2 stage (s)	4.1				6.4	6.2	
tF(s)	2.2				3.5	3.3	
p0 queue free %	99				100	100	
cM capacity (veh/h)	1157				391	649	
Direction, Lane #	EB 1	WB 1	SB 1				
Volume Total	309	402	1				
Volume Left	10	0	0				
Volume Right	0	1	1				
cSH	1157	1700	649				
Volume to Capacity	0.01	0.24	0.00				
Queue Length 95th (ft)	_ 1	0	0				
Control Delay (s)	0.3	0.0	10.6				
Lane LOS	A	0.0	B				
Approach Delay (s) Approach LOS	0.3	0.0	10.6 B				
Intersection Summary							
Average Delay			0.2				
Intersection Capacity Utilizati Analysis Period (min)	on		31.9% 15	IC	U Level o	t Service	Α

TRINITY PRESBYTERIAN, PURCHASE, NY

2014 EXISTING CONDITIONS, WEEKDAY PM PEAK HOUR 20: PEPSICO DR./SUNY PURCHASE DR. & ANDERSON HILL ROAD NBL **NBT NBR** SBL SBT SBR **FBI EBT EBR** WBL **WBT WBR** Lane Group Lane Configurations ኻ ተተ 7 ች **ት**ኤ ሻ ٨ 7 ኻ ħ 7 226 Volume (vph) 167 4 0 299 33 12 0 4 58 0 248 Ideal Flow (vphpl) 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 Lane Width (ft) 12 10 12 12 12 11 10 10 12 13 12 11 0% 0% Grade (%) 0% 0% Storage Length (ft) 250 125 230 n 150 150 0 0 0 1 Storage Lanes 1 1 1 1 1 1 Taper Length (ft) 25 25 25 25 1.00 1.00 1.00 0.95 0.95 1.00 0.95 1.00 1.00 0.95 0.95 1.00 Lane Util. Factor Ped Bike Factor 0.985 0.850 0.850 0.850 Frt 0.850 0.950 0.950 0.950 FIt Protected 0 Satd. Flow (prot) 1711 3471 1478 1863 3403 1711 1739 1478 1719 1539 1490 Flt Permitted 0.494 0.590 0.757 Satd. Flow (perm) 890 3471 1478 1863 3403 0 1062 1739 1478 1370 1539 1490 Right Turn on Red Yes Yes Yes Yes 624 412 412 Satd. Flow (RTOR) 102 13 30 30 30 Link Speed (mph) 30 300 Link Distance (ft) 294 299 262 Travel Time (s) 6.7 6.8 6.0 6.8 Confl. Peds. (#/hr) Confl. Bikes (#/hr) Peak Hour Factor 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 100% 100% Growth Factor 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% Heavy Vehicles (%) 2% 4% 2% 2% 4% 9% 2% 2% 2% 5% 2% 3% 0 0 0 0 Bus Blockages (#/hr) 0 0 0 0 0 0 0 0 Parking (#/hr) 0% 0% 0% Mid-Block Traffic (%) 0% 258 Adi. Flow (vph) 235 174 4 0 311 34 12 0 4 60 0 Shared Lane Traffic (%) 50% Lane Group Flow (vph) 235 174 4 0 345 0 12 0 4 60 129 129 NΑ Perm Perm Turn Type NΑ Perm Perm Perm NA pm+pt pm+pt 3 2 7 Protected Phases 1 6 5 6 2 3 3 7 7 Permitted Phases 6 7 6 6 5 2 3 3 3 7 7 **Detector Phase** 1 Switch Phase Minimum Initial (s) 5.0 30.0 30.0 5.0 30.0 5.0 5.0 5.0 5.0 5.0 5.0 36.0 36.0 36.0 36.0 36.0 36.0 36.0 11.0 36.0 36.0 Minimum Split (s) 11.0 Total Split (s) 12.0 37.0 37.0 11.0 36.0 48.0 48.0 48.0 48.0 48.0 48.0 12.5% 50.0% 50.0% 50.0% 50.0% 50.0% 50.0% Total Split (%) 38.5% 38.5% 11.5% 37.5% 4.0 4.0 4.0 4.0 4.0 4.0 4.0 Yellow Time (s) 4.0 4.0 4.0 4.0 2.0 2.0 2.0 Ali-Red Time (s) 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Lost Time Adjust (s) Total Lost Time (s) 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 Lead/Lag Lead Lag Lag Lead Lag Lead-Lag Optimize? Yes Yes Yes Yes Yes C-Min None None None None None None Recall Mode None C-Min C-Min None

5/8/2014

Act Effct Green (s)

Actuated g/C Ratio

FREDERICK P. CLARK ASSOCIATES, INC. - MES

74.9

0.78

74.9

0.78

58.9

0.61

9.1

0.09

74.9

0.78

9.1

0.09

9.1

0.09

9.1

0.09

9.1

0.09

20: PEPSICO DR./SUNY PURCHASE DR. & ANDERSON HILL ROAD 2014 EXISTING CONDITIONS, WEEKDAY PM PEAK HOUR

	•	→	*	1	+	1	1	†	-	-	 	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.30	0.06	0.00		0.16		0.12		0.01	0.47	0.25	0.25
Control Delay	1.6	0.5	0.0		8.6		40.8		0.0	52.1	1.1	1.2
Queue Delay	0.0	0.0	0.0		0.0		0.0		0.0	0.0	0.0	0.0
Total Delay	1.6	0.5	0.0		8.6		40.8		0.0	52.1	1.1	1.2
LOS	Α	Α	Α		Α		D		Α	D	Α	Α
Approach Delay		1.2			8.6						10.8	
Approach LOS		Α			Α						В	
Queue Length 50th (ft)	0	0	0		40		7		0	36	0	0
Queue Length 95th (ft)	3	1	m0		75		23		0	73	0	0
Internal Link Dist (ft)		214			219			182			220	
Turn Bay Length (ft)	250		125				150		150			
Base Capacity (vph)	780	2709	1175		2092		464		997	599	905	883
Starvation Cap Reductn	0	0	0		0		0		0	0	0	0
Spillback Cap Reductn	0	0	0		0		0		0	0	0	0
Storage Cap Reductn	0	0	0		0		0		0	0	0	0
Reduced v/c Ratio	0.30	0.06	0.00		0.16		0.03		0.00	0.10	0.14	0.15

Intersection Summary

Area Type:

Cycle Length: 96

Actuated Cycle Length: 96

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Other

Natural Cycle: 85

Control Type: Actuated-Coordinated

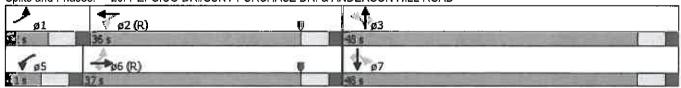
Maximum v/c Ratio: 0.47 Intersection Signal Delay: 6.7 Intersection Capacity Utilization 62.4%

Intersection LOS: A ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

20: PEPSICO DR./SUNY PURCHASE DR. & ANDERSON HILL ROAD



	*	→	*	•	+	4	4	†	<i>*</i>	/	+	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		ች	4		ኻ	4	
Volume (vph)	21	173	51	31	54	25	33	87	28	32	127	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	1 1	11	12	12	12	10	11	11	10	10	10
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0	0.0	0	0	• • • • • • • • • • • • • • • • • • • •	0	150		0	150		0
Storage Lanes	0		Ō	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor							1.00	0.99		1.00	1.00	
Frt		0.972			0.969			0.963			0.991	
FIt Protected		0.996			0.986		0.950			0.950		
Satd. Flow (prot)	0	1743	0	0	1775	0	1636	1704	0	1652	1721	0
FIt Permitted		0.965			0.845		0.657			0.671		
Satd. Flow (perm)	0	1689	0	0	1521	0	1130	1704	0	1165	1721	0
Right Turn on Red			No			Yes			No			No
Satd. Flow (RTOR)					25							
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		368			659			224			211	
Travel Time (s)		8.4			15.0			5.1			4.8	
Confl. Peds. (#/hr)		0			1010		1	• • • • • • • • • • • • • • • • • • • •	1	1		- 1
Confl. Bikes (#/hr)							·		-	,		70
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	3%	2%	2%	3%	2%	7%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)	_	-	_	•	•	-	_	_		_	_	_
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	24	201	59	36	63	29	38	101	33	37	148	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	284	0	0	128	0	38	134	0	37	157	0
Turn Type	Perm	NA	•	Perm	NA	_	pm+pt	NA		pm+pt	NA	
Protected Phases		7			3		2	5		6	1	
Permitted Phases	7	•		3	_		5			1		
Detector Phase	7	7		3	3		2	5		6	1	
Switch Phase		·		-	_			_		_		
Minimum Initial (s)	3.0	3.0		3.0	3.0		3.0	10.0		3.0	10.0	
Minimum Split (s)	8.0	8.0		8.0	8.0		8.0	15.0		8.0	24.0	
Total Split (s)	28.0	28.0		28.0	28.0		11.0	17.0		20.0	26.0	
Total Split (%)	43.1%	43.1%		43.1%	43.1%		16.9%	26.2%		30.8%	40.0%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag		0.0			4,5		Lag	Lead		Lag	Lead	
Lead-Lag Optimize?							-~5			9	_,_,	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)		12.3			12.3		23.7	18.9		25.4	21.8	
Actuated g/C Ratio		0.26			0.26		0.50	0.40		0.53	0.46	

	1	→	*	•	←	4	4	†	-	\	ļ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.65			0.31		0.06	0.20		0.05	0.20	
Control Delay		24.1			14.6		7.7	17.0		6.9	12.0	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		24.1			14.6		7.7	17.0		6.9	12.0	
LOS		С			В		Α	В		Α	В	
Approach Delay		24.1			14.6			15.0			11.0	
Approach LOS		С			В			В			В	
Queue Length 50th (ft)		59			19		2	15		4	18	
Queue Length 95th (ft)		140			59		18	84		17	77	
Internal Link Dist (ft)		288			579			144			131	
Turn Bay Length (ft)							150			150		
Base Capacity (vph)		844			772		659	673		968	785	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.34			0.17		0.06	0.20		0.04	0.20	
Intersection Summary												

Area Type:

Cycle Length: 65

Actuated Cycle Length: 47.7

Natural Cycle: 50

Control Type: Actuated-Uncoordinated

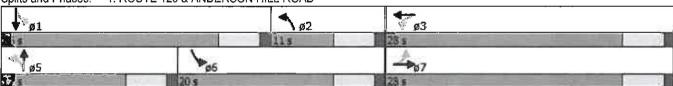
Maximum v/c Ratio: 0.65 Intersection Signal Delay: 17.3 Intersection Capacity Utilization 45.9%

Intersection LOS: B
ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 1: ROUTE 120 & ANDERSON HILL ROAD

Other



	\rightarrow	\rightarrow	•	-	4	1
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	4		*5	↑	\\	
Volume (vph)	198	12	45	85	12	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	10	14	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	200		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.992				0.878	
Flt Protected			0.950		0.995	
Satd. Flow (prot)	2033	0	1652	1987	1627	0
Flt Permitted	_,_,	•	0.599		0.995	Ū
Satd. Flow (perm)	2033	0	1041	1987	1627	0
Right Turn on Red		Yes				No
Satd. Flow (RTOR)	4	. 50				
Link Speed (mph)	30			30	30	
Link Distance (ft)	183			253	903	
Travel Time (s)	4.2			5.8	20.5	
Confl. Peds. (#/hr)	1			0.0	20.0	
Confl. Bikes (#/hr)						
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)	v	Ü	Ü	v	U	U
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	241	15	55	104	15	135
Shared Lane Traffic (%)		, 0	50	107	10	100
Lane Group Flow (vph)	256	0	55	104	150	0
Turn Type	NA	U	pm+pt	NA	Prot	v
Protected Phases	5		6 pini pt	2	3	
Permitted Phases	3		2	_	J	
Detector Phase	5		6	2	3	
Switch Phase	J		U	4	J	
Minimum Initial (s)	20.0		5.0	20.0	5.0	
Minimum Split (s)	26.0		11.0	26.0	31.0	
Total Split (s)	38.0		14.0	52.0	38.0	
Total Split (%)	42.2%		15.6%	57.8%	42.2%	
Yellow Time (s)	42.270		4.0	4.0	42.270	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	
Lead/Lag	Lead			U.U	U.O	
~	Yes		Lag			
Lead-Lag Optimize?			Yes	C May	None	
Recall Mode	C-Max		None	C-Max	None	
Act Effet Green (s)	54.0		65.2	65.2	12.8	
Actuated g/C Ratio	0.60		0.72	0.72	0.14	

	→	*	1	←	1	-
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
v/c Ratio	0.21		0.07	0.07	0.65	
Control Delay	10.4		3.5	3.3	48.9	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	10.4		3.5	3.3	48.9	
LOS	В		Α	Α	D	
Approach Delay	10.4			3.4	48.9	
Approach LOS	В			Α	D	
Queue Length 50th (ft)	66		6	11	82	
Queue Length 95th (ft)	110		14	22	120	
Internal Link Dist (ft)	103			173	823	
Turn Bay Length (ft)			200			
Base Capacity (vph)	1221		808	1439	578	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.21		0.07	0.07	0.26	
Intersection Summary						

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:WBTL and 5:EBT, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.65

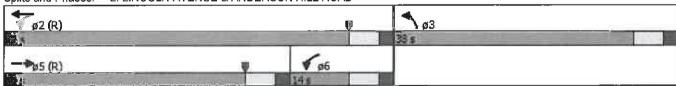
Intersection Signal Delay: 18.7

Intersection Capacity Utilization 43.4%

Intersection LOS: B ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2: LINCOLN AVENUE & ANDERSON HILL ROAD



5/8/2014 FREDERICK P. CLARK ASSOCIATES, INC. - MES

	*	-	+	4	-	1
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		र्स	4		¥	
Volume (vph)	12	220	101	4	0	9
ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	14	14
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.995		0.865	
Flt Protected		0.997				
Satd. Flow (prot)	0	1795	1792	0	1719	0
FIt Permitted		0.997				
Satd. Flow (perm)	0	1795	1792	0	1719	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		659	1283		228	
Travel Time (s)		15.0	29.2		5.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	15	272	125	5	0	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	287	130	0	11	0
Sign Control		Free	Free		Stop	
Intersection Summary						

Area Type:

Other

Control Type: Unsignalized Intersection Capacity Utilization 28.9%

Analysis Period (min) 15

ICU Level of Service A

	•	→	+	4	/	4	_		
Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations		4	₽		¥	_			
Volume (veh/h)	12	220	101	4	0	9			
Sign Control		Free	Free		Stop				
Grade		0%	0%		0%				
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81			
Hourly flow rate (vph)	15	272	125	5	0	11			
Pedestrians									
Lane Width (ft)									
Walking Speed (ft/s)									
Percent Blockage									
Right turn flare (veh)		Mono	None						
Median type		None	None						
Median storage veh)		659							
Upstream signal (ft) pX, platoon unblocked		009							
vC, conflicting volume	130				428	127			
vC1, stage 1 conf voi	100				720	121			
vC2, stage 2 conf vol									
vCu, unblocked vol	130				428	127			
tC, single (s)	4.1				6.4	6.2			
tC, 2 stage (s)									
tF (s)	2.2				3.5	3.3			
p0 queue free %	99				100	99			
cM capacity (veh/h)	1456				577	923			
Direction, Lane#	EB 1	WB 1	SB 1						
Volume Total	286	130	11						
Volume Left	15	0	0						
Volume Right	0	5	11						
cSH	1456	1700	923						
Volume to Capacity	0.01	0.08	0.01						
Queue Length 95th (ft)	1	0	1						
Control Delay (s)	0.5	0.0	8.9						
Lane LOS	A	0.0	A						
Approach Delay (s)	0.5	0.0	8.9						
Approach LOS			Α						
Intersection Summary	·								
Average Delay			0.6						
Intersection Capacity Utilizat	tion		28.9%	IC	J Level o	f Service	A	4	
Analysis Period (min)			15						

	•	→	7	1	+	1	4	<u>†</u>	<i>*</i>	-	+	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	个 个	*	ሻ	† ‡		*	†	7	ኻ	†	7
Volume (vph)	240	69	0	ō	50	35	Ó	Ō	0	12	0	80
ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	10	12	12	12	11	10	10	12	13	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		125	230		0	150		150	0		0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95
Ped Bike Factor												
Frt					0.938						0.850	0.850
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1711	3539	1739	1863	3320	0	1801	1739	1739	1671	1539	1490
Flt Permitted	0.570									0.757		
Satd. Flow (perm)	1026	3539	1739	1863	3320	0	1801	1739	1739	1332	1539	1490
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					45						894	894
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		294			299			262			300	
Travel Time (s)		6.7			6.8			6.0			6.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	8%	2%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	308	88	0	0	64	45	0	0	0	15	0	103
Shared Lane Traffic (%)												50%
Lane Group Flow (vph)	308	88	0	0	109	0	0	0	0	15	52	51
Turn Type	pm +p t	NA	Perm	pm+pt	NA		Perm		Perm	Perm	NA	Perm
Protected Phases	1	6		5	2			3			7	
Permitted Phases	6		6	2			3		3	7		7
Detector Phase	1	6	6	5	2		3	3	3	7	7	7
Switch Phase	,	-	-	•								
Minimum Initial (s)	5.0	30.0	30.0	5.0	30.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	36.0	36.0	11.0	36.0		36.0	36.0	36.0	36.0	36.0	36.0
Total Split (s)	18.0	43.0	43.0	11.0	36.0		36.0	36.0	36.0	36.0	36.0	36.0
Total Split (%)	20.0%	47.8%	47.8%	12.2%	40.0%		40.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Ų.J	3.0	5.5	0.0	0.0	0.0
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Recall Mode	None	C-Min	C-Min	None	C-Min		Max	Max	Max	Max	Max	Max
Act Effct Green (s)	48.0	48.0	O WILL	1,0110	30.2		HUM	HUA	MUA	30.0	30.0	30.0
Actuated g/C Ratio	0.53	0.53			0.34					0.33	0.33	0.33
Actuated gro Ratio	0.55	0.00			0.04					0.00	0.00	0.00

5/8/2014 FREDERICK P. CLARK ASSOCIATES, INC. - MES Synchro 8 Report

TRINITY PRESBYTERIAN, PURCHASE, NY

20: PEPSICO DR./SUNY PURCHASE DR. & ANDERSON HILL ROAD 2014 EXISTING CONDITIONS, SUN. SERVICE ARR. PEAK HOUR

	*	→	\rightarrow	1	-	*		†	-	-	↓	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.48	0.05			0.10					0.03	0.05	0.05
Control Delay	9.1	5.5			13.1					20.7	0.1	0.1
Queue Delay	0.0	0.0			0.0					0.0	0.0	0.0
Total Delay	9.1	5.5			13.1					20.7	0.1	0.1
LOS	Α	Α			В					С	Α	Α
Approach Delay		8.3			13.1					•	2.7	
Approach LOS		Α			В						Α	
Queue Length 50th (ft)	35	5			13					6	0	0
Queue Length 95th (ft)	44	8			25					17	0	0
Internal Link Dist (ft)		214			219			182			220	
Turn Bay Length (ft)	250											
Base Capacity (vph)	638	1887			1143					444	1109	1092
Starvation Cap Reductn	0	0			0					0	0	0
Spillback Cap Reductn	0	0			0					0	0	0
Storage Cap Reductn	0	0			0					0	0	0
Reduced v/c Ratio	0.48	0.05			0.10					0.03	0.05	0.05

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 79 (88%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 85

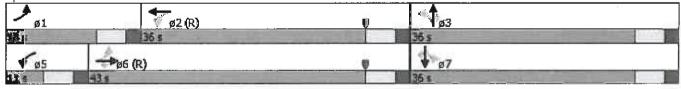
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.48 Intersection Signal Delay: 8.1 Intersection Capacity Utilization 39.2%

Intersection LOS: A ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 20: PEPSICO DR./SUNY PURCHASE DR. & ANDERSON HILL ROAD



	۶	→	*	•	+	•	1	†	/	-	↓	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		ሻ	†		ሻ	4	
Volume (vph)	23	135	74	49	220	64	60	155	32	56	132	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12	10	11	11	10	10	10
Storage Length (ft)	0		0	0		0	150		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.957			0.974			0.975			0.972	
Flt Protected		0.995			0.993		0.950			0.950		
Satd. Flow (prot)	0	1715	0	0	1802	0	1636	1724	0	1652	1690	0
Flt Permitted		0.944			0.920		0.641			0.625		
Satd. Flow (perm)	0	1627	0	0	1669	0	1104	1724	0	1087	1690	0
Right Turn on Red			No			Yes			No			No
Satd. Flow (RTOR)					21							
Link Speed (mph)		30			30			30			30	
Link Distance (fi)		368			659			224			211	
Travel Time (s)		8.4			15.0			5.1			4.8	
Peak Hour Factor	0.88	0.88	88.0	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	2%	13%	2%	2%	2%
Adj. Flow (vph)	26	153	84	56	250	73	68	176	36	64	150	34
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	263	0	0	379	0	68	212	0	64	184	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		7			3		2	5		6	1	
Permitted Phases	7			3			5			1		
Detector Phase	7	7		3	3		2	5		6	1	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		3.0	10.0		3.0	10.0	
Minimum Split (s)	8.0	8.0		8.0	8.0		8.0	15.0		8.0	24.0	
Total Split (s)	30.0	30.0		30.0	30.0		11.0	21.0		14.0	24.0	
Total Split (%)	46.2%	46.2%		46.2%	46.2%		16.9%	32.3%		21.5%	36.9%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lag	Lead		Lag	Lead	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)		15.3			15.3		23.3	18.4		26.4	19.9	
Actuated g/C Ratio		0.30			0.30		0.46	0.36		0.52	0.39	
v/c Ratio		0.54			0.73		0.12	0.34		0.10	0.28	
Control Delay		19.6			24.5		9.5	18.6		9.0	16.0	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		19.6			24.5		9.5	18.6		9.0	16.0	
LOS		В			С		Α	В		Α	В	
Approach Delay		19.6			24.5			16.4			14.2	
Approach LOS		В			С			В			В	

TRINITY PRESBYTERIAN, PURCHASE, NY 2014 EXISTING CONDITIONS, SUN. CLASS DEPART. PEAK HOUR

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 50.9

Natural Cycle: 55

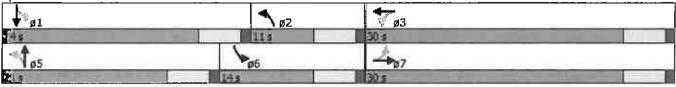
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.73 Intersection Signal Delay: 19.3 Intersection Capacity Utilization 53.3%

Intersection LOS: B
ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 1: ROUTE 120 & ANDERSON HILL ROAD



2014 EXISTING CONDITIONS, SUN. CLASS DEPART. PEAK HOUR

	-	*	•	+	4	1
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	7-		ሻ	†	¥	
Volume (vph)	204	23	147	358	9	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	10	14	12	12
Storage Length (ft)		0	200		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.986				0.882	
Fit Protected	0.000		0.950		0.994	
Satd. Flow (prot)	2020	0	1652	1987	1633	0
FIt Permitted	2020	J	0.583	,007	0.994	•
Satd. Flow (perm)	2020	0	1014	1987	1633	0
Right Turn on Red	LULU	Yes	1014	1901	1000	No
•	7	169				NO
Satd. Flow (RTOR)	30			30	30	
Link Speed (mph)						
Link Distance (ft)	183			253	903	
Travel Time (s)	4.2	0.04	0.04	5.8	20.5	0.04
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	243	27	175	426	11	76
Shared Lane Traffic (%)	070		475	400	07	•
Lane Group Flow (vph)	270	0	175	426	87	0
Turn Type	NA -		pm+pt	NA	Prot	
Protected Phases	5		6	2	3	
Permitted Phases			2	_	_	
Detector Phase	5		6	2	3	
Switch Phase						
Minimum Initial (s)	20.0		5.0	20.0	5.0	
Minimum Split (s)	26.0		11.0	26.0	31.0	
Total Split (s)	37.0		19.0	56.0	34.0	
Total Split (%)	41.1%		21.1%	62.2%	37.8%	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max	None	
Act Effct Green (s)	52.0		71.0	72.2	9.2	
Actuated g/C Ratio	0.58		0.79	0.80	0.10	
v/c Ratio	0.23		0.20	0.27	0.52	
Control Delay	11.0		2.8	2.7	48.7	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	11.0		2.8	2.7	48.7	
LOS	В		2.0 A	Α.,	D	
Approach Delay	11.0		^	2.7	48.7	
Approach LOS	11.0 B			Α.,	40.1 D	
	5			,,	3	
Intersection Summary						

TRINITY PRESBYTERIAN, PURCHASE, NY 2014 EXISTING CONDITIONS, SUN. CLASS DEPART. PEAK HOUR

Area Type:

Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:WBTL and 5:EBT, Start of Yellow

Natural Cycle: 70

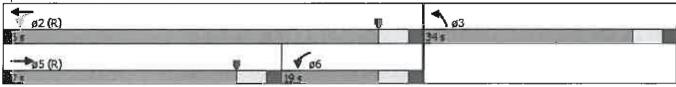
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.52 Intersection Signal Delay: 9.2 Intersection Capacity Utilization 44.3%

Intersection LOS: A ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2: LINCOLN AVENUE & ANDERSON HILL ROAD



5/8/2014 Synchro 8 Report FREDERICK P. CLARK ASSOCIATES, INC. - MES Page 4

	1	→	←		1	1
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		4	1>		N/A	
Volume (vph)	6	216	332	3	2	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	14	14
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999		0.919	
Flt Protected		0.999			0.980	
Satd. Flow (prot)	0	1799	1799	0	1789	0
Flt Permitted		0.999			0.980	
Satd. Flow (perm)	0	1799	1799	0	1789	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		659	1283		228	
Travel Time (s)		15.0	29.2		5.2	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	7	243	373	3	2	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	250	376	0	5	0
Sign Control		Free	Free		Stop	
Intersection Summary						

Other

Control Type: Unsignalized

Intersection Capacity Utilization 27.7%

Analysis Period (min) 15

ICU Level of Service A

	۶	→	+	4	1	4	
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations Volume (veh/h) Sign Control	6	4 216 Free	332 Free	3	2 Stop	3	
Grade		0%	0%		0%		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	
Hourly flow rate (vph) Pedestrians Lane Width (ft) Walking Speed (ft/s) Percent Blockage	7	243	373	3	2	3	
Right turn flare (veh)							
Median type Median storage veh)		None	None				
Upstream signal (ft) pX, platoon unblocked		659					
vC, conflicting volume vC1, stage 1 conf vol vC2, stage 2 conf vol	376				631	375	
vCu, unblocked vol	376				631	375	
tC, single (s)	4.1				6.4	6.2	
tC, 2 stage (s)	0.0				0.5	0.0	
tF (s)	2.2				3.5	3.3	
p0 queue free %	99				99	99 672	
cM capacity (veh/h)	1182				443	672	
Direction, Lane #	EB 1	WB 1	SB 1				
Volume Total	249	376	6				
Volume Left	7	0	2				
Volume Right	0	3	3				
cSH Valume to Conneits	1182	1700	556				
Volume to Capacity	0.01	0.22	0.01				
Queue Length 95th (ft)	0 0.3	0 0.0	1 11.5				
Control Delay (s)		0.0	11.5 B				
Lane LOS Approach Delay (s)	A 0.3	0.0	11.5				
Approach LOS	0.5	0.0	11.5 B				
Intersection Summary							
Average Delay			0.2				
Intersection Capacity Utilization	on		27.7%	ICI	J Level o	f Service	Α
Analysis Period (min)			15				

Lanes, Volumes, Timings
TRINITY PRESBYTERIAN, PURCHASE, NY
20: PEPSICO DR./SUNY PURCHASE DR. & ANDERSON HILL RD. 2014 EXISTING CONDITIONS, SUN. CLASS DEPART. PEAK HOUR

20. F LF SIGO DIC/SUNT F	<i>•</i>		1021100		←	4	4	#	<u> </u>	<u> </u>		
			*	₹			7	ı		_	*	•
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*1	ተተ	ř	ሻ	ተኈ		**	^	ř	ሻ	7	7
Volume (vph)	145	116	7	4	162	23	4	5	0	42	0	339
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	10	12	12	12	11	10	10	12	13	12
Storage Length (ft)	250		125	230		0	150		150	0		0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850		0.982						0.850	0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1694	3471	1478	1770	3476	0	1711	1739	1739	1770	1554	1504
FIt Permitted	0.508			0.661			0.583			0.754		
Satd. Flow (perm)	906	3471	1478	1231	3476	0	1050	1739	1739	1405	1554	1504
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109		22						701	701
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		294			299			262			300	
Travel Time (s)		6.7			6.8			6.0			6.8	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	3%	4%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	179	143	9	5	200	28	5	6	0	52	0	419
Shared Lane Traffic (%)												50%
Lane Group Flow (vph)	179	143	9	5	228	0	5	6	0	52	210	209
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6		. · · 5	2			3			7	
Permitted Phases	6		6	2			3		3	7		7
Detector Phase	1	6	6	5	2		3	3	3	7	7	7
Switch Phase												
Minimum Initial (s)	5.0	30.0	30.0	5.0	30.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	36.0	36.0	11.0	36.0		36.0	36.0	36.0	36.0	36.0	36.0
Total Split (s)	15.0	46.0	46.0	15.0	46.0		29.0	29.0	29.0	29.0	29.0	29.0
Total Split (%)	16.7%	51.1%	51.1%	16.7%	51.1%		32.2%	32.2%	32.2%	32.2%	32.2%	32.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		0.0	0.0	0.0	0.0	0.0	0.0
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Recall Mode	None	C-Min	C-Min	None	C-Min		Max	Max	Max	Max	Max	Max
Act Effct Green (s)	44.2	42.4	42.4	36.8	30.1		33.0	33.0	WILL	33.0	33.0	33.0
Actuated g/C Ratio	0.49	0.47	0.47	0.41	0.33		0.37	0.37		0.37	0.37	0.37
v/c Ratio	0.34	0.09	0.47	0.01	0.19		0.01	0.01		0.10	0.21	0.21
Control Delay	8.4	7.7	0.0	11.8	19.8		18.5	18.2		19.5	0.21	0.21
•	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Queue Delay	8.4	7.7	0.0					18.2		19.5	0.0	
Total Delay				11.8	19.8		18.5					0.5
LOS Approach Dolov	Α	A 7.0	Α	В	B 10.6		В	B 10.2		В	A	Α
Approach Delay		7.9			19.6			18.3			2.6	
Approach LOS		Α			В			В			Α	

20: PEPSICO DR./SUNY PURCHASE DR. & ANDERSON HILL RD. 2014 EXISTING CONDITIONS, SUN. CLASS DEPART. PEAK HOUR

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 9 (10%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.34 Intersection Signal Delay: 8.2 Intersection Capacity Utilization 58.2%

Intersection LOS: A ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 20: PEPSICO DR./SUNY PURCHASE DR. & ANDERSON HILL RD.



CAPACITY ANALYSIS WORKSHEETS No-Build Conditions

	۶	→	*	•	+	*	1	1	-	-	¥	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		ሻ	7		7	1•	
Volume (vph)	41	432	198	71	109	56	67	181	107	168	342	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12	10	11	11	10	10	10
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	150		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.960			0.968			0.944			0.991	
Fit Protected		0.997			0.985		0.950			0.950		
Satd. Flow (prot)	0	1626	0	0	1573	0	1636	1562	0	1560	1690	0
FIt Permitted		0.965			0.642		0.215			0.360		
Satd. Flow (perm)	0	1574	0	0	1025	0	370	1562	0	591	1690	0
Right Turn on Red			No			Yes			No			No
Satd. Flow (RTOR)					23							
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		368			659			224			211	
Travel Time (s)		8.4			15.0			5.1			4.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	15%	8%	7%	17%	13%	17%	3%	8%	16%	8%	3%	20%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	46	485	222	80	122	63	75	203	120	189	384	24
Shared Lane Traffic (%)									•	400	400	
Lane Group Flow (vph)	_ 0	753	0	0	265	0	75	323	0	189	408	0
Turn Type	Perm	NΑ		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	_	7		•	3		2	5		6	1	
Permitted Phases	7	_		3	•		5	_		1		
Detector Phase	7	7		3	3		2	5		6	1	
Switch Phase				0.0	0.0			40.0		0.0	40.0	
Minimum Initial (s)	3.0	3.0		3.0	3.0		3.0	10.0		3.0	10.0	
Minimum Split (s)	8.0	8.0		8.0	8.0		8.0	15.0		8.0	24.0	
Total Split (s)	61.0	61.0		61.0	61.0		10.0	30.0		13.0	33.0	
Total Split (%)	58.7%	58.7%		58.7%	58.7%		9.6%	28.8%		12.5%	31.7%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Nama	Mana		Mana	None		Mone	May		Mana	May	
Recall Mode	None	None		None	None		None	Max		None	Max 30.1	
Act Effet Green (s)		49.1			49.1 0.51		30.2	25.3		36.2		
Actuated g/C Ratio		0.51			0.51		0.31	0.26		0.37	0.31	

	•	→	*	1	-	*	4	†	1	-	↓	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.94			0.50		0.42	0.79		0.64	0.78	
Control Delay		44.3			17.7		36.6	51.4		41.5	45.5	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		44.3			17.7		36.6	51.4		41.5	45.5	
LOS		D			В		D	D		D	D	
Approach Delay		44.3			17.7			48.6			44.3	
Approach LOS		D			В			D			D	
Queue Length 50th (ft)		421			94		33	207		90	261	
Queue Length 95th (ft)		#672			161		65	#353		#153	#430	
Internal Link Dist (ft)		288			579			144			131	
Turn Bay Length (ft)							150			150		
Base Capacity (vph)		920			609		182	407		306	525	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.82			0.44		0.41	0.79		0.62	0.78	
Intersection Summary												

Area Type: Other

Cycle Length: 104

Actuated Cycle Length: 96.9

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.94 Intersection Signal Delay: 41.6 Intersection Capacity Utilization 76.3%

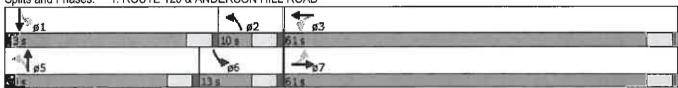
Intersection LOS: D ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

1: ROUTE 120 & ANDERSON HILL ROAD Splits and Phases:



	→	*	1	←	1	1
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	4		**	<u> </u>	¥	
Volume (vph)	672	29	98	201	13	529
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	1000	14	12	12
Grade (%)	0%	. •		0%	0%	
Storage Length (ft)	• 70	0	200	• 70	0	0
Storage Lanes		Ö	1		1	Ö
Taper Length (ft)		•	25		25	_
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.994				0.868	
Flt Protected	0.001		0.950		0.999	
Satd. Flow (prot)	2037	0	1652	1987	1615	0
Flt Permitted	_001	J	0.097	.00,	0.999	•
Satd. Flow (perm)	2037	0	169	1987	1615	0
Right Turn on Red	2001	Yes	103	1007	1010	No
Satd. Flow (RTOR)	3	169				INO
Link Speed (mph)	30			30	30	
Link Distance (ft)	183			253	903	
Travel Time (s)	4.2			5.8	20.5	
Confl. Peds. (#/hr)	4.2			0.0	20.0	
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
	0	0	0	0	0	0
Bus Blockages (#/hr) Parking (#/hr)	U	U	U	U	U	v
Mid-Block Traffic (%)	0%			0%	0%	
	707	31	103	212	14	557
Adj. Flow (vph)	101	अ ।	103	212	14	557
Shared Lane Traffic (%)	720	٥	409	242	E71	٥
Lane Group Flow (vph)	738 NA	0	103	212	571	0
Turn Type	NA 5		pm+pt	NA	Prot	
Protected Phases	5		6	2	3	
Permitted Phases	-		Z	۰	•	
Detector Phase	5		6	2	3	
Switch Phase	00.0		50	00.0	. .	
Minimum Initial (s)	20.0		5.0	20.0	5.0	
Minimum Split (s)	26.0		11.0	26.0	31.0	
Total Split (s)	40.0		11.0	51.0	39.0	
Total Split (%)	44.4%		12.2%	56.7%	43.3%	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max	None	
Act Effct Green (s)	36.5		45.3	45.3	32.7	
Actuated g/C Ratio	0.41		0.50	0.50	0.36	

	-	7	1	←	4	-
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
v/c Ratio	0.89		0.62	0.21	0.97	
Control Delay	41.3		41.7	12.8	61.5	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	41.3		41.7	12.8	61.5	
LOS	Đ		D	В	Ε	
Approach Delay	41.3			22.2	61.5	
Approach LOS	D			С	Ε	
Queue Length 50th (ft)	400		29	61	313	
Queue Length 95th (ft)	#640		#84	101	#528	
Internal Link Dist (ft)	103			173	823	
Turn Bay Length (ft)			200			
Base Capacity (vph)	828		167	1001	592	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.89		0.62	0.21	0.96	
Intersection Summary						

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:WBTL and 5:EBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97 Intersection Signal Delay: 44.7 Intersection Capacity Utilization 91.0%

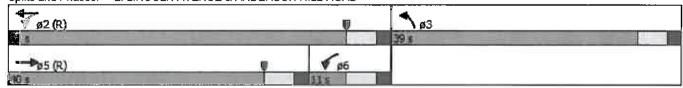
Intersection LOS: D
ICU Level of Service F

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: LINCOLN AVENUE & ANDERSON HILL ROAD



	A		4	4	-	1
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		र्स	ĵ.		¥	
Volume (vph)	7	669	235	3	3	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	14	14
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.998		0.894	
Flt Protected		0.999			0.989	
Satd. Flow (prot)	0	1799	1797	0	1757	0
Flt Permitted		0.999			0.989	
Satd. Flow (perm)	0	1799	1797	0	1757	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		659	1283		228	
Travel Time (s)		15.0	29.2		5.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	8	743	261	3	3	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	751	264	0	14	0
Sign Control		Free	Free		Stop	
Intersection Summary						

Other

Control Type: Unsignalized

Intersection Capacity Utilization 50.8%

Analysis Period (min) 15

ICU Level of Service A

_	<i>></i>	→	+	4	/	4			•
Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations		4	₽	-	N ₁ 4				
Volume (veh/h)	7	669	235	3	3	10			
Sign Control		Free	Free		Stop				
Grade		0%	0%		0%				
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90			
Hourly flow rate (vph)	8	743	261	3	3	11			
Pedestrians									
Lane Width (ft)									
Walking Speed (ft/s)									
Percent Blockage									
Right turn flare (veh)									
Median type		None	None						
Median storage veh)		0.50							
Upstream signal (ft)		659			0.05				
pX, platoon unblocked	004				0.95	000			
vC, conflicting volume	264				1022	263			
vC1, stage 1 conf vol									
vC2, stage 2 conf vol	004				004	000			
vCu, unblocked vol	264				994	263			
tC, single (s)	4.1				6.4	6.2			
tC, 2 stage (s)	0.0				2.5	2.2			
tF (s)	2.2				3.5	3.3			
p0 queue free %	99				99	99 776			
cM capacity (veh/h)	1300				255	776			
Direction, Lane #	EB 1	WB 1	SB 1				•		
Volume Total	751	264	14						
Volume Left	8	0	3						
Volume Right	0	4700	11						
cSH	1300	1700	528						
Volume to Capacity	0.01	0.16	0.03						
Queue Length 95th (ft)	0	0	2 12.0						
Control Delay (s)	0.2	0.0	12.0						
Lane LOS	Α	0.0	B 12.0						
Approach Delay (s)	0.2	0.0	12.0						
Approach LOS			В						
Intersection Summary									
Average Delay			0.3					_	
Intersection Capacity Utilizati	on		50.8%	IC	U Level o	f Service		A	
Analysis Period (min)			15						

Lanes, Volumes, Timings 20: PEPSICO DR./SUNY PURCHASE DR. & ANDERSON HILL ROAD 2016 NO-BUILD CONDITIONS, WEEKDAY AM PEAK HOUR

20: PEPSICO DR./SUNT P	UNCHASE	. DIV. O. A	NDLNOC	IN LINEL IN	OAU	20101	IO-DOILL	CONDI	IONO, W	ONS, WEEKDAY AWI PEAK				
	1	→	7	•	←	*	4	1	1	-	Į.	1		
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations	7	朴朴	7	ኝ	↑ ↑		*	↑	7	75	ર્વ	7		
Volume (vph)	312	216	673	198	146	44	60	6	15	24	6	93		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	11	12	10	12	12	12	11	10	10	12	13	12		
Grade (%)		0%			0%			0%			0%			
Storage Length (ft)	250		125	230		0	150		150	0		0		
Storage Lanes	1		1	1		0	1		1	1		1		
Taper Length (ft)	25			25			25			25				
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95		
Ped Bike Factor														
Frt			0.850		0.965				0.850		0.867	0.850		
Flt Protected	0.950			0.950			0.950			0.950				
Satd. Flow (prot)	1662	3112	1478	1770	3201	0	1711	1739	1478	1656	1470	1382		
Flt Permitted	0.521	V	•	0.608	020.	·	0.721	.,,		0.754				
Satd. Flow (perm)	911	3112	1478	1133	3201	0	1298	1739	1478	1314	1470	1382		
Right Turn on Red	011	0112	Yes	1100	0201	Yes	1200	1100	Yes		1110	Yes		
Satd. Flow (RTOR)			716		47	100			182		47	182		
Link Speed (mph)		30	7.10		30			30	102		30	102		
Link Distance (ft)		294			299			262			300			
Travel Time (s)		6.7			6.8			6.0			6.8			
Confl. Peds. (#/hr)		0.7			0.0			0.0			0.0			
Confl. Bikes (#/hr)														
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%		
Heavy Vehicles (%)	5%	16%	2%	2%	100%	5%	2%	2%	2%	9%	2%	11%		
	0	0	0	270	10%	0	0	0	270	970	270	0		
Bus Blockages (#/hr)	U	U	U	U	U	U	U	U	U	U	U	U		
Parking (#/hr)		0%			0%			0%			0%			
Mid-Block Traffic (%)	332	230	716	211	155	47	64	6	16	26	6	00		
Adj. Flow (vph)	332	230	710	211	100	41	04	0	10	20	O	99 47%		
Shared Lane Traffic (%)	332	220	716	211	202	0	64	c	16	26	53			
Lane Group Flow (vph)		230	716	211		0	64	6				52		
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA 7	Perm		
Protected Phases	1	6		5	2		2	3	•	7	7	7		
Permitted Phases	6	•	6	2	0		3	2	3	7	7	7		
Detector Phase	1	6	6	5	2		3	3	3	7	7	7		
Switch Phase	.	20.0	20.0	E 0	20.0		E 0	E 0	E 0	E 0	E 0	.		
Minimum Initial (s)	5.0	30.0	30.0	5.0	30.0		5.0	5.0	5.0	5.0	5.0	5.0		
Minimum Split (s)	11.0	36.0	36.0	11.0	36.0		36.0	36.0	36.0	36.0	36.0	36.0		
Total Split (s)	18.0	43.0	43.0	11.0	36.0		36.0	36.0	36.0	36.0	36.0	36.0		
Total Split (%)	20.0%	47.8%	47.8%	12.2%	40.0%		40.0%	40.0%	40.0%	40.0%	40.0%	40.0%		
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0		
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0		
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0		
Lead/Lag	Lead	Lag	Lag	Lead	Lag									
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes									
Recall Mode	None	C-Min	C-Min	None	C-Min		Max	Max	Max	Max	Max	Max		
Act Effct Green (s)	48.0	37.0	37.0	35.1	30.1		30.0	30.0	30.0	30.0	30.0	30.0		
Actuated g/C Ratio	0.53	0.41	0.41	0.39	0.33		0.33	0.33	0.33	0.33	0.33	0.33		

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20: PEPSICO DR./SUNY PURCHASE DR. & ANDERSON HILL ROAD 2016 NO-BUILD CONDITIONS, WEEKDAY AM PEAK HOUR

	1	-	*	1	•	*	1	†	-	-	↓	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.57	0.18	0.70	0.44	0.18		0.15	0.01	0.03	0.06	0.10	0.09
Control Delay	8.2	10.4	4.3	17.7	16.7		22.3	20.2	0.1	21.0	8.1	0.3
Queue Delay	0.0	0.0	0.8	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.2	10.4	5.0	17.7	16.7		22.3	20.2	0.1	21.0	8.1	0.3
LOS	Α	В	Α	В	В		С	С	Α	С	Α	Α
Approach Delay		6.8			17.2			18.0			7.6	
Approach LOS		Α			В			В			Α	
Queue Length 50th (ft)	73	33	35	60	32		25	2	0	10	2	0
Queue Length 95th (ft)	m79	m37	m49	100	57		55	11	0	28	28	0
Internal Link Dist (ft)		214			219			182			220	
Turn Bay Length (ft)	250		125	230			150		150			
Base Capacity (vph)	586	1279	1029	477	1100		432	579	614	438	521	582
Starvation Cap Reductn	0	0	103	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.18	0.77	0.44	0.18		0.15	0.01	0.03	0.06	0.10	0.09

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 12 (13%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 85

Control Type: Actuated-Coordinated

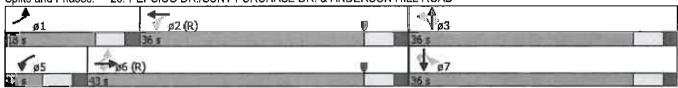
Maximum v/c Ratio: 0.70 Intersection Signal Delay: 9.6 Intersection Capacity Utilization 71.8%

Intersection LOS: A ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 20: PEPSICO DR./SUNY PURCHASE DR. & ANDERSON HILL ROAD



TRINITY PRESBYTERIAN, PURCHASE, NY 2016 NO-BUILD CONDITIONS, WEEKDAY PM PEAK HOUR

	۶	\rightarrow	*	•	←	*	4	†	1	-	↓	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		ሻ	éÎ		ሻ	4	
Volume (vph)	67	216	91	77	362	143	169	296	59	74	157	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12	10	11	11	10	10	10
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	150		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00		1.00		
Frt		0.967			0.967			0.975			0.972	
Flt Protected		0.991			0.993		0.950			0.950		
Satd. Flow (prot)	0	1683	0	0	1773	0	1620	1744	0	1652	16 4 7	0
FIt Permitted		0.786			0.893		0.589			0.327		
Satd. Flow (perm)	0	1335	0	0	1594	0	1004	1744	0	568	1647	0
Right Turn on Red			No			Yes			No			No
Satd. Flow (RTOR)					30							
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		368			659			224			211	
Travel Time (s)		8.4			15.0			5.1			4.8	
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	3%	8%	9%	2%	2%	4%	2%	4%	2%	5%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	72	232	98	83	389	154	182	318	63	80	169	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	402	0	0	626	0	182	381	0	80	207	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		7			3		2	5		6	1	
Permitted Phases	7			3			5			1		
Detector Phase	7	7		3	3		2	5		6	1	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		3.0	10.0		3.0	10.0	
Minimum Split (s)	8.0	8.0		8.0	8.0		8.0	15.0		8.0	24.0	
Total Split (s)	36.0	36.0		36.0	36.0		10.0	24.0		10.0	24.0	
Total Split (%)	51.4%	51.4%		51.4%	51.4%		14.3%	34.3%		14.3%	34.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lag	Lead		Lag	Lead	
Lead-Lag Optimize?							_			_		
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)		27.5			27.5		$\bar{25}.\bar{2}$	21.3		24.0	19.1	
Actuated g/C Ratio		0.41			0.41		0.38	0.32		0.36	0.29	

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.73			0.93		0.43	0.68		0.28	0.44	
Control Delay		25.1			39.8		18.4	30.7		17.7	24.2	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		25.1			39.8		18.4	30.7		17.7	24.2	
LOS		С			D		В	С		В	С	
Approach Delay		25.1			39.8			26.7			22.4	
Approach LOS		С			D			С			С	
Queue Length 50th (ft)		132			223		50	152		20	74	
Queue Length 95th (ft)		232			#424		92	#287		45	134	
Internal Link Dist (ft)		288			579			144			131	
Turn Bay Length (ft)							150			150		
Base Capacity (vph)		625			762		427	557		287	472	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.64			0.82		0.43	0.68		0.28	0.44	
Intersection Summary												

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 66.6

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.93 Intersection Signal Delay: 30.1 Intersection Capacity Utilization 75.3%

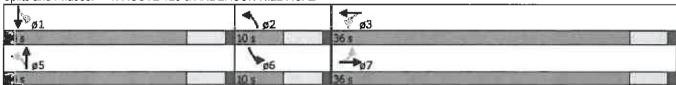
Intersection LOS: C ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: ROUTE 120 & ANDERSON HILL ROAD



	→	7	1	—	1	1
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
v/c Ratio	0.40		0.68	0.44	0.72	
Control Delay	22.6		10.1	5.5	52.9	
Queue Delay	0.0		0.0	0.2	0.0	
Total Delay	22.6		10.1	5.7	52.9	
LOS	С		В	Α	D	
Approach Delay	22.6			7.6	52.9	
Approach LOS	С			Α	D	
Queue Length 50th (ft)	143		99	140	112	
Queue Length 95th (ft)	299		m137	m177	173	
Internal Link Dist (ft)	103			173	823	
Turn Bay Length (ft)			200			
Base Capacity (vph)	921		764	1414	425	
Starvation Cap Reductn	0		0	244	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.40		0.60	0.54	0.45	
Intersection Summary						
Area Type:	Other					

Cycle Length: 96

Actuated Cycle Length: 96

Offset: 61 (64%), Referenced to phase 2:WBTL and 5:EBT, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 16.2 Intersection Capacity Utilization 67.3%

Intersection LOS: B ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: LINCOLN AVENUE & ANDERSON HILL ROAD



	•	-	•	•	-	1
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		र्स	13		¥	
Volume (vph)	9	318	583	1	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	14	14
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	. 0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt					0.865	
Flt Protected		0.999				
Satd. Flow (prot)	0	1799	1801	0	1719	0
Flt Permitted		0.999				
Satd. Flow (perm)	0	1799	1801	0	1719	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		659	1283		228	
Travel Time (s)		15.0	29.2		5.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	10	342	627	1	0	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	352	628	0	1	0
Sign Control		Free	Free		Stop	
Intersection Summary						

Other

Control Type: Unsignalized Intersection Capacity Utilization 40.7%

Analysis Period (min) 15

ICU Level of Service A

5/8/2014 FREDERICK P. CLARK ASSOCIATES, INC. - MES

	≯	-	-	4	1	1	
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	_	4	1		Å		
Volume (veh/h)	9	318	583	1	0	1	
Sign Control		Free	Free		Stop		
Grade	0.00	0%	0%	0.00	0%	0.00	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	
Hourly flow rate (vph)	10	342	627	1	0	1	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type		None	None				
Median storage veh)		050					
Upstream signal (ft)		659					
pX, platoon unblocked	000				000	607	
vC, conflicting volume	628				989	627	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol	600				989	627	
vCu, unblocked vol	628 4.1				6.4	6.2	
tC, single (s)	4.1				0.4	0.2	
tC, 2 stage (s)	2.2				3.5	3.3	
tF (s) p0 queue free %	99				100	100	
cM capacity (veh/h)	954				271	483	
					211	400	
Direction, Lane # Volume Total	EB 1 352	WB 1 628	SB 1 1				***
Volume Left	10	020	0				
Volume Right	0	1	1				
cSH	954	1700	483				
Volume to Capacity	0.01	0.37	0.00				
Queue Length 95th (ft)	1	0.37	0.00				
Control Delay (s)	0.4	0.0	12.5				
Lane LOS	0. 4 A	0.0	12.3 B				
Approach Delay (s)	0.4	0.0	12.5				
Approach LOS	0.7	0.0	12.0 B				
Intersection Summary							
Average Delay			0.1				
Intersection Capacity Utilization			40.7%	IC	U Level o	f Service	Α
Analysis Period (min)			15				

TRINITY PRESBYTERIAN, PURCHASE, NY

Lanes, Volumes, Timings
20: PEPSICO DR./SUNY PURCHASE DR. & ANDERSON HILL ROAD 2016 NO-BUILD CONDITIONS, WEEKDAY PM PEAK HOUR

20: PEPSICO DR./SUNY F	PURCHASE	DR. & A	NDERSC	N HILL R	ROAD	2016 N	io-Buill	CONDIT	IONS, W	EEKDAY	PM PEAI	K HOUR
	1	-	7	1	•	*	1	†	1	-	Ţ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	十 个	7	ኘ	ተኈ		ሻ	†	7	ሻ	₽.	7
Volume (vph)	231	173	66	24	306	34	439	5	148	59	5	253
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1 9 00	1900
Lane Width (ft)	11	12	10	12	12	12	11	10	10	12	13	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		125	230		0	150		150	0		0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95
Ped Bike Factor												
Frt			0.850		0.985				0.850		0.856	0.850
FIt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1711	3471	1478	1770	3403	0	1711	1739	1478	1719	1551	1490
Flt Permitted	0.442			0.638			0.667			0.754		
Satd. Flow (perm)	796	3471	1478	1188	3403	0	1201	1739	1478	1364	1551	1490
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			102		13				154		129	135
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		294			299			262			300	
Travel Time (s)		6.7			6.8			6.0			6.8	
Confl. Peds. (#/hr)		0			0.0							
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	4%	2%	2%	4%	9%	2%	2%	2%	5%	2%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)	_	Ū	Ū	·		•	J	·	·	•	•	·
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	241	180	69	25	319	35	457	5	154	61	5	264
Shared Lane Traffic (%)			40		0.0			Ū		٠.		49%
Lane Group Flow (vph)	241	180	69	25	354	0	457	5	154	61	134	135
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Ū	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6	, 0	5	2			3			7	
Permitted Phases	6	Ū	6	2	-		3	·	3	7	•	7
Detector Phase	1	6	6	5	2		3	3	3	7	7	7
Switch Phase	,	·	•	•	_		_	_	_	-		·
Minimum Initial (s)	5.0	30.0	30.0	5.0	30.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	36.0	36.0	11.0	36.0		36.0	36.0	36.0	36.0	36.0	36.0
Total Split (s)	12.0	37.0	37.0	11.0	36.0		48.0	48.0	48.0	48.0	48.0	48.0
Total Split (%)	12.5%	38.5%	38.5%	11.5%	37.5%		50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		0.0	0.0	0.0	0.0	0.0	0.0
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Recall Mode	None	C-Min	C-Min	None	C-Min		None	None	None	None	None	None
Act Effct Green (s)	42.3	39.9	39.9	36.8	31.2		39.7	39.7	39.7	39.7	39.7	39.7
Actuated g/C Ratio	0.44	0.42	0.42	0.38	0.32		0.41	0.41	0.41	0.41	0.41	0.41
Moluated 9/0 Mailo	U.44	0.42	0.42	0.00	0.02		U.T.	V. T I	0.71	U.71	U.TI	U.71

20: PEPSICO DR./SUNY PURCHASE DR. & ANDERSON HILL ROAD

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL .	NBT	NBR	ŞBL	SBT	SBR
v/c Ratio	0.58	0.12	0.10	0.05	0.32		0.92	0.01	0.22	0.11	0.19	0.19
Contro! Delay	14.9	10.1	4.6	16.0	24.9		52.4	15.4	3.6	16.8	4.0	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.9	10.1	4.6	16.0	24.9		52.4	15.4	3.6	16.8	4.0	3.7
LOS	В	В	Α	В	С		D	В	Α	В	Α	Α
Approach Delay		11.7			24.3			39.9			6.2	
Approach LOS		В			С			D			Α	
Queue Length 50th (ft)	87	32	6	8	83		246	2	0	21	2	0
Queue Length 95th (ft)	52	42	25	24	122		#438	8	35	46	36	34
Internal Link Dist (ft)		214			219			182			220	
Turn Bay Length (ft)	250		125	230			150		150			
Base Capacity (vph)	418	1442	674	489	1113		525	760	733	596	751	727
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.12	0.10	0.05	0.32		0.87	0.01	0.21	0.10	0.18	0.19

Intersection Summary

Area Type: Other

Cycle Length: 96

Actuated Cycle Length: 96

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 85

Control Type: Actuated-Coordinated

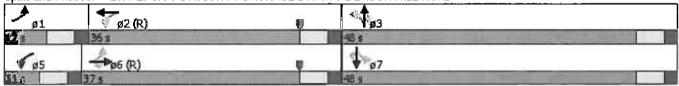
Maximum v/c Ratio: 0.92 Intersection Signal Delay: 22.9 Intersection Capacity Utilization 83.8%

Intersection LOS: C
ICU Level of Service E

Analysis Period (min) 15

Queue shown is maximum after two cycles.

Splits and Phases: 20: PEPSICO DR./SUNY PURCHASE DR. & ANDERSON HILL ROAD



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^{# 95}th percentile volume exceeds capacity, queue may be longer.

	۶	→	7	1	+	•	1	†	<i>*</i>	/	↓	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		ሻ	∱		ኻ	- ↑	
Volume (vph)	21	187	52	33	62	29	34	89	31	38	130	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12	10	11	11	10	10	10
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	150		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor							1.00	0.99		1.00	1.00	
Frt		0.973			0.968			0.961			0.992	
Flt Protected		0.996			0.987		0.950			0.950		
Satd. Flow (prot)	0	1745	0	0	1775	0	1636	1699	0	1652	1723	0
Flt Permitted		0.966			0.842		0.656			0.668		
Satd. Flow (perm)	0	1692	0	0	1514	0	1128	1699	0	1160	1723	0
Right Turn on Red			No			Yes			No			No
Satd. Flow (RTOR)					26							
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		368			659			224			211	
Travel Time (s)		8.4			15.0			5.1			4.8	
Confl. Peds. (#/hr)							1		1	1		1
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	3%	2%	2%	3%	2%	7%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	24	217	60	38	72	34	40	103	36	44	151	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	301	0	0	144	0	40	139	0	44	160	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		7			3		2	5		6	1	
Permitted Phases	7			3			5			1		
Detector Phase	7	7		3	3		2	5		6	1	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		3.0	10.0		3.0	10.0	
Minimum Split (s)	8.0	8.0		8.0	8.0		8.0	15.0		8.0	24.0	
Total Split (s)	28.0	28.0		28.0	28.0		11.0	17.0		20.0	26.0	
Total Split (%)	43.1%	43.1%		43.1%	43.1%		16.9%	26.2%		30.8%	40.0%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lag	Lead		Lag	Lead	
Lead-Lag Optimize?							•			•		
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)		12.8			12.8		23.8	18.9		25.5	21.8	
Actuated g/C Ratio		0.27			0.27		0.49	0.39		0.53	0.45	

	۶	-	*	1	—	*	1	1	1	1	ļ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.67			0.34		0.07	0.21		0.06	0.21	
Control Delay		24.4			15.0		7.9	17.5		7.3	12.4	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		24.4			15.0		7.9	17.5		7.3	12.4	
LOS		С			В		Α	В		Α	В	
Approach Delay		24.4			15.0			15.4			11.3	
Approach LOS		С			В			В			В	
Queue Length 50th (ft)		64			22		2	16		5	19	
Queue Length 95th (ft)		148			66		19	89		20	80	
Internal Link Dist (ft)		288			579			144			131	
Turn Bay Length (ft)							150			150		
Base Capacity (vph)		836			761		652	664		956	777	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.36			0.19		0.06	0.21		0.05	0.21	

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 48.3

Natural Cycle: 50

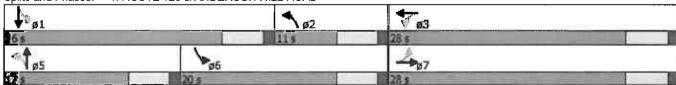
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.67 Intersection Signal Delay: 17.6 Intersection Capacity Utilization 47.0%

Intersection LOS: B ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 1: ROUTE 120 & ANDERSON HILL ROAD



Lane Group EBT EBR WBL WBT NBL NBR Lane Configurations ♣ Y ♣ Y Y Lane Configurations ♣ Y
Lane Configurations
Lane Configurations
Volume (vph) 220 12 57 98 12 131 Ideal Flow (vphpl) 1900 1900 1900 1900 1900 1900 Lane Width (ft) 15 15 10 14 12 12 Grade (%) 0% 0% 0% 0% 0% 0 Storage Length (ft) 0 200 0 0 0 0 Storage Lanes 0 1 1 0
Ideal Flow (vphpl) 1900 120 12
Lane Width (fft) 15 15 10 14 12 12 Grade (%) 0% 0% 0% 0% Storage Length (ft) 0 200 0 0 Storage Lanes 0 1 1 0 Taper Length (ft) 25 25 25 Lane Util. Factor 1.00 1.00 1.00 1.00 1.00 Ped Bike Factor 0.90 1.00 1.00 1.00 1.00 1.00 Ped Bike Factor 0.993 0.877 0.877 0.877 0.877 0.877 0.877 0.896 0.896 0.896 0.896 0.996
Grade (%) 0% 0% 0% Storage Length (ft) 0 200 0 0 Storage Lanes 0 1 1 0 Taper Length (ft) 25 25 25 Lane Util. Factor 1.00
Storage Length (fft) 0 200 0 0 Storage Lanes 0 1 1 0 Taper Length (ft) 25 25 25 Lane Util. Factor 1.00 1.00 1.00 1.00 1.00 Ped Bike Factor 0.993 0.877 0.877 0.877 FIt Protected 0.996 0.998 1987 1627 0
Storage Lanes 0 1 1 0 Taper Length (ft) 25 25 25 Lane Util. Factor 1.00 1.00 1.00 1.00 1.00 Ped Bike Factor 0.993 0.877 0.877 Fit Protected 0.950 0.996 0.996 Satd. Flow (prot) 2035 0 1652 1987 1627 0 Fit Permitted 0.574 0.996 0.998 1987 1627 0 0
Taper Length (ft) 25 25 Lane Util. Factor 1.00 1.00 1.00 1.00 1.00 1.00 Ped Bike Factor 0.993 0.877 0.877 0.877 0.996 0.
Lane Util. Factor 1.00 1.
Ped Bike Factor Frt 0.993 0.877 Fit Protected 0.950 0.996 Satd. Flow (prot) 2035 0 1652 1987 1627 0 Fit Permitted 0.574 0.996 0.996 0.998 1987 1627 0
Frt 0.993 0.877 Flt Protected 0.950 0.996 Satd. Flow (prot) 2035 0 1652 1987 1627 0 Flt Permitted 0.574 0.996 0.996 0.996 0.996 0.996 0.996 0.996 0.996 0.996 0.996 0.996 0.998 0.997 0.996 0.998 1987 0.996 0.998 0.998 1987 0.998 0.998 0.998 0.998 0.998
Fit Protected 0.950 0.996 Satd. Flow (prot) 2035 0 1652 1987 1627 0 Fit Permitted 0.574 0.996 0.998 1987 1627 0 0 0.998 1987 1627 0 0 0 0 0 0 0 0 0 0 <
Satd. Flow (prot) 2035 0 1652 1987 1627 0 Flt Permitted 0.574 0.996
Fit Permitted 0.574 0.996 Satd. Flow (perm) 2035 0 998 1987 1627 0 Right Turn on Red Yes No Satd. Flow (RTOR) 3 3 30 10 Link Speed (mph) 30 30 30 30 30 Link Distance (ft) 183 253 903 10<
Satd. Flow (perm) 2035 0 998 1987 1627 0 Right Turn on Red Yes No Satd. Flow (RTOR) 3 3 30 30 Link Speed (mph) 30 30 30 30 Link Distance (ft) 183 253 903 Travel Time (s) 4.2 5.8 20.5 Confl. Peds. (#/hr) Confl. Bikes (#/hr) Peak Hour Factor 0.82 0.82 0.82 0.82 0.82 0.82
Right Turn on Red Yes No Satd. Flow (RTOR) 3 Link Speed (mph) 30 30 30 Link Distance (ft) 183 253 903 Travel Time (s) 4.2 5.8 20.5 Confl. Peds. (#/hr) Confl. Bikes (#/hr) Peak Hour Factor 0.82 0.82 0.82 0.82 0.82
Right Turn on Red Yes No Satd. Flow (RTOR) 3 Link Speed (mph) 30 30 30 Link Distance (ft) 183 253 903 Travel Time (s) 4.2 5.8 20.5 Confl. Peds. (#/hr) Confl. Bikes (#/hr) Peak Hour Factor 0.82 0.82 0.82 0.82 0.82 0.82
Satd. Flow (RTOR) 3 Link Speed (mph) 30 30 30 Link Distance (ft) 183 253 903 Travel Time (s) 4.2 5.8 20.5 Confl. Peds. (#/hr) Confl. Bikes (#/hr) Peak Hour Factor 0.82 0.82 0.82 0.82 0.82
Link Speed (mph) 30 30 30 Link Distance (ft) 183 253 903 Travel Time (s) 4.2 5.8 20.5 Confl. Peds. (#/hr) Confl. Bikes (#/hr) Peak Hour Factor 0.82 0.82 0.82 0.82 0.82
Link Distance (ft) 183 253 903 Travel Time (s) 4.2 5.8 20.5 Confl. Peds. (#/hr) Confl. Bikes (#/hr) Peak Hour Factor 0.82 0.82 0.82 0.82 0.82
Travel Time (s) 4.2 5.8 20.5 Confl. Peds. (#/hr) Confl. Bikes (#/hr) Peak Hour Factor 0.82 0.82 0.82 0.82 0.82
Confl. Peds. (#/hr) Confl. Bikes (#/hr) Peak Hour Factor 0.82 0.82 0.82 0.82 0.82
Confl. Bikes (#/hr) Peak Hour Factor 0.82 0.82 0.82 0.82 0.82 0.82
Peak Hour Factor 0.82 0.82 0.82 0.82 0.82 0.82
Growin Facior 100% 100% 100% 100% 100%
Heavy Vehicles (%) 2% 2% 2% 2% 2% 2% 2%
Bus Blockages (#/hr) 0 0 0 0 0
Parking (#/hr)
Mid-Block Traffic (%) 0% 0%
Adj. Flow (vph) 268 15 70 120 15 160
Shared Lane Traffic (%)
Lane Group Flow (vph) 283 0 70 120 175 0
Turn Type NA pm+pt NA Prot
Protected Phases 5 6 2 3
Permitted Phases 2
Detector Phase 5 6 2 3
Switch Phase
Minimum Initial (s) 20.0 5.0 20.0 5.0
Minimum Split (s) 26.0 11.0 26.0 31.0
Total Split (s) 38.0 14.0 52.0 38.0
' ' '
Yellow Time (s) 4.0 4.0 4.0 4.0
All-Red Time (s) 2.0 2.0 2.0 2.0
Lost Time Adjust (s) 0.0 0.0 0.0 0.0
Total Lost Time (s) 6.0 6.0 6.0
Lead/Lag Lead Lag
Lead-Lag Optimize? Yes Yes
Recall Mode C-Max None C-Max None
Act Effct Green (s) 52.6 63.8 63.8 14.2
Actuated g/C Ratio 0.58 0.71 0.71 0.16

	→	*	•	4	1	/
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
v/c Ratio	0.24		0.09	0.09	0.68	
Control Delay	11.5		4.1	3.8	48.6	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	11.5		4.1	3.8	48.6	
LOS	В		Α	Α	D	
Approach Delay	11.5			3.9	48.6	
Approach LOS	В			Α	D	
Queue Length 50th (ft)	77		8	14	95	
Queue Length 95th (ft)	128		18	27	135	
Internal Link Dist (ft)	103			173	823	
Turn Bay Length (ft)			200			
Base Capacity (vph)	1189		765	1408	578	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.24		0.09	0.09	0.30	
Intersection Summary						

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:WBTL and 5:EBT, Start of Yellow

Natural Cycle: 70

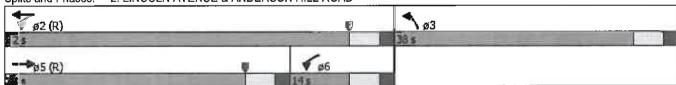
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.68 Intersection Signal Delay: 19.3 Intersection Capacity Utilization 44.6%

Intersection LOS: B

Analysis Period (min) 15

Splits and Phases: 2: LINCOLN AVENUE & ANDERSON HILL ROAD



	*	-	+	4	-	4
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		4	1		N/F	
Volume (vph)	12	242	114	4	0	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	14	14
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.995		0.865	
Flt Protected		0.998				
Satd. Flow (prot)	0	1797	1792	0	1719	0
Flt Permitted		0.998				
Satd. Flow (perm)	0	1797	1792	0	1719	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		659	1283		228	
Travel Time (s)		15.0	29.2		5.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	- 0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	15	299	141	5	0	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	314	146	0	11	0
Sign Control		Free	Free		Stop	
Intersection Summary					_	

Other

Control Type: Unsignalized

Intersection Capacity Utilization 30.1%

Analysis Period (min) 15

ICU Level of Service A

	ၨ	→	+	4	\	1	
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations Volume (veh/h) Sign Control Grade	12	4 242 Free 0%	114 Free 0%	4	0 Stop 0%	9	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	
Hourly flow rate (vph) Pedestrians Lane Width (ft) Walking Speed (ft/s) Percent Blockage Right turn flare (veh)	15	299	141	5	0.81	11	
Median type Median storage veh) Upstream signal (ft)		None 659	None				
pX, platoon unblocked vC, conflicting volume vC1, stage 1 conf vol vC2, stage 2 conf vol	146	•••			0.99 472	143	
vCu, unblocked vol	146				459	143	
tC, single (s) tC, 2 stage (s)	4.1				6.4	6.2	
tF (s)	2.2				3.5	3.3	
p0 queue free %	99				100	99	
cM capacity (veh/h)	1436				548	904	
Direction, Lane #	EB 1	WB 1	SB 1				
Volume Total	314	146	11				
Volume Left	15	0	0				
Volume Right	0	5	11				
cSH	1436	1700	904				
Volume to Capacity	0.01	0.09	0.01				
Queue Length 95th (ft)	1	0	1				
Control Delay (s)	0.4	0.0	9.0				
Lane LOS Approach Delay (s)	A 0.4	0.0	A 9.0				
Approach LOS	0.4	0.0	9.0 A				
Intersection Summary							
Average Delay Intersection Capacity Utilization Analysis Period (min)	1		0.5 30.1% 15	IC	U Level o	f Service	А

EBL **EBT EBR** WBL **WBT WBR** NBL NBT **NBR** SBL SBT Lane Group SBR ħ ۲ 44 ۴ 7 ች 7 Lane Configurations 7 **ተ**ኬ ች þ Volume (vph) 245 72 34 11 53 36 20 0 7 12 0 82 Ideal Flow (vphpl) 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 10 12 12 Lane Width (ft) 11 12 12 12 11 10 10 12 13 0% 0% 0% Grade (%) 0% O 125 230 0 0 Storage Length (ft) 250 150 150 Storage Lanes 1 1 O 1 1 1 1 1 25 25 25 25 Taper Length (ft) Lane Util. Factor 1.00 0.95 1.00 1.00 0.95 0.95 1.00 1.00 1.00 0.95 0.95 1.00 Ped Bike Factor 0.850 Frt 0.850 0.939 0.850 0.850 0.950 0.950 0.950 0.950 Flt Protected 1711 1711 3539 1770 3323 0 1739 1478 1671 1539 Satd, Flow (prot) 1478 1490 FIt Permitted 0.567 0.694 0.721 0.757 3539 1293 3323 0 1298 1739 1478 1539 1490 Satd. Flow (perm) 1021 1478 1332 Right Turn on Red Yes Yes Yes Yes 883 883 Satd, Flow (RTOR) 109 46 858 30 30 30 30 Link Speed (mph) Link Distance (ft) 294 299 262 300 Travel Time (s) 6.7 6.8 6.0 6.8 Confl. Peds. (#/hr) Confl. Bikes (#/hr) 0.78 0.78 0.78 0.78 0.78 0.78 0.78 0.78 0.78 0.78 0.78 0.78 Peak Hour Factor 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% Growth Factor Heavy Vehicles (%) 2% 2% 2% 2% 2% 2% 2% 2% 2% 8% 2% 3% Bus Blockages (#/hr) 0 0 0 0 0 0 0 0 0 0 0 0 Parking (#/hr) Mid-Block Traffic (%) 0% 0% 0% 0% 0 9 0 105 Adj. Flow (vph) 314 92 44 14 68 46 26 15 Shared Lane Traffic (%) 50% 314 92 44 114 0 26 0 9 15 53 52 Lane Group Flow (vph) 14 Turn Type pm+pt NΑ Perm pm+pt NΑ Perm Perm Perm NΑ Perm 3 Protected Phases 2 1 6 5 7 3 Permitted Phases 6 6 2 3 7 7 2 7 7 5 3 3 7 **Detector Phase** 1 6 6 3 Switch Phase 5.0 Minimum Initial (s) 5.0 30.0 30.0 5.0 30.0 5.0 5.0 5.0 5.0 5.0 11.0 36.0 36.0 11.0 36.0 36.0 36.0 36.0 36.0 36.0 36.0 Minimum Split (s) Total Split (s) 18.0 43.0 43.0 11.0 36.0 36.0 36.0 36.0 36.0 36.0 36.0 40.0% 40.0% Total Split (%) 20.0% 47.8% 47.8% 12.2% 40.0% 40.0% 40.0% 40.0% 40.0% Yellow Time (s) 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 All-Red Time (s) Lost Time Adjust (s) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 6.0 Total Lost Time (s) 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 Lead/Lag Lead Lag Lag Lead Lag Lead-Lag Optimize? Yes Yes Yes Yes Yes Recall Mode None C-Min C-Min None C-Min Max Max Max Max Max Max Act Effct Green (s) 48.0 45.8 45.8 35.2 30.2 30.030.0 30.030.0 30.0 0.33 Actuated g/C Ratio 0.53 0.51 0.51 0.39 0.34 0.33 0.33 0.33 0.33

TRINITY PRESBYTERIAN, PURCHASE, NY

20: PEPSICO DR./SUNY PURCHASE DR. & ANDERSON HILL ROAD 2016 NO-BUILD CONDITIONS, SUN. SERVICE ARR. PEAK HOUR

	*	→	*	1	+	*	4	†	1	-	1	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.49	0.05	0.05	0.03	0.10		0.06		0.01	0.03	0.05	0.05
Control Delay	9.0	6.6	0.4	11.0	13.2		21.1		0.0	20.7	0.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0	0.0	0.0
Total Delay	9.0	6.6	0.4	11.0	13.2		21.1		0.0	20.7	0.1	0.1
LOS	Α	Α	Α	В	В		С		Α	С	Α	Α
Approach Delay		7.6			13.0						2.6	
Approach LOS		Α			В						Α	
Queue Length 50th (ft)	35	5	0	4	13		10		0	6	0	0
Queue Length 95th (ft)	43	14	2	11	26		24		0	17	0	0
Internal Link Dist (ft)		214			219			182			220	
Turn Bay Length (ft)	250		125	230			150		150			
Base Capacity (vph)	636	1800	805	532	1145		432		1064	444	1101	1085
Starvation Cap Reductn	0	0	0	0	0		0		0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0		0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0		0	0	0	0
Reduced v/c Ratio	0.49	0.05	0.05	0.03	0.10		0.06		0.01	0.03	0.05	0.05

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 79 (88%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.49 Intersection Signal Delay: 8.1 Intersection Capacity Utilization 48.3%

Intersection LOS: A ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 20: PEPSICO DR./SUNY PURCHASE DR. & ANDERSON HILL ROAD



TRINITY PRESBYTERIAN, PURCHASE, NY 2016 NO-BUILD CONDITIONS, SUN. CLASS DEPART. PEAK HOUR

	•	→	*	•	+	4	4	†	1	-	Į.	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		ሻ	4		14	4	
Volume (vph)	23	149	75	51	231	68	61	158	35	62	135	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12	10	11	11	10	10	10
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	150		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.959			0.974			0.973			0.972	
Fit Protected		0.995			0.993		0.950			0.950		
Satd. Flow (prot)	0	1718	0	0	1802	0	1636	1718	0	1652	1690	0
Flt Permitted		0.946			0.916		0.639			0.621		
Satd. Flow (perm)	0	1634	0	0	1662	0	1100	1718	0	1080	1690	0
Right Turn on Red			No			Yes			No			No
Satd. Flow (RTOR)					22							
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		368			659			224			211	
Travel Time (s)		8.4			15.0			5.1			4.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	2%	13%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	26	169	85	58	262	77	69	180	40	70	153	35
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	280	0	0	397	0	69	220	0	70	188	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		7			3		2	5		6	1	
Permitted Phases	7			3			5			1		
Detector Phase	7	7		3	3		2	5		6	1	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		3.0	10.0		3.0	10.0	
Minimum Split (s)	8.0	8.0		8.0	8.0		8.0	15.0		8.0	24.0	
Total Split (s)	30.0	30.0		30.0	30.0		11.0	21.0		14.0	24.0	
Total Split (%)	46.2%	46.2%		46.2%	46.2%		16.9%	32.3%		21.5%	36.9%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lag	Lead		Lag	Lead	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)		15.8			15.8		23.3	18.3		26.4	19.9	
Actuated g/C Ratio		0.31			0.31		0.45	0.36		0.51	0.39	

	۶	→	7	1	←	4	*	1	-	1	↓	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.56			0.75		0.13	0.36		0.11	0.29	
Control Delay		19.8			25.3		9.7	19.0		9.2	16.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		19.8			25.3		9.7	19.0		9.2	16.3	
LOS		В			С		Α	В		Α	В	
Approach Delay		19.8			25.3			16.8			14.4	
Approach LOS		В			С			В			В	
Queue Length 50th (ft)		77			111		10	59		11	45	
Queue Length 95th (ft)		134			188		33	131		34	105	
Internal Link Dist (ft)		288			579			144			131	
Turn Bay Length (ft)							150			150		
Base Capacity (vph)		832			857		592	613		720	654	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.34			0.46		0.12	0.36		0.10	0.29	
Intersection Summary												

Intersection Summary
Area Type:

Cycle Length: 65

Actuated Cycle Length: 51.4

Natural Cycle: 55

Control Type: Actuated-Uncoordinated

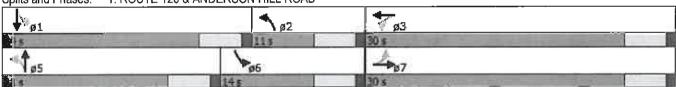
Maximum v/c Ratio: 0.75 Intersection Signal Delay: 19.7 Intersection Capacity Utilization 55.6%

Intersection LOS: B
ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: ROUTE 120 & ANDERSON HILL ROAD

Other



	-	7	•	←	4	1
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	<u> </u>		*	<u></u>	¥	
Volume (vph)	226	23	161	376	9	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	1500	10	14	12	12
Grade (%)	0%	.0	10	0%	0%	
Storage Length (ft)	070	0	200	070	0	0
Storage Lanes		0	1		1	0
Taper Length (ft)		U	25		25	U
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00	1.00	1.00	1.00	1.00
	0.988				0.878	
Frt	0.900		0.050			
Fit Protected	2004	^	0.950	4007	0.995	۸
Satd. Flow (prot)	2024	0	1652	1987	1627	0
Flt Permitted		_	0.559		0.995	•
Satd. Flow (perm)	2024	0	972	1987	1627	.0
Right Turn on Red		Yes				No
Satd. Flow (RTOR)	6					
Link Speed (mph)	30			30	30	
Link Distance (ft)	183			253	903	
Travel Time (s)	4.2			5.8	20.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)	v	v	9	9	v	Ū
Mid-Block Traffic (%)	0%			0%	0%	
• •	269	27	192	448	11	99
Adj. Flow (vph)	209	21	152	440	11	שט
Shared Lane Traffic (%)	200	^	400	440	110	0
Lane Group Flow (vph)	296	0	192	448	110	0
Turn Type	NA		pm+pt	NA	Prot	
Protected Phases	5		6	2	3	
Permitted Phases	_		2	_	_	
Detector Phase	5		6	2	3	
Switch Phase						
Minimum Initial (s)	20.0		5.0	20.0	5.0	
Minimum Split (s)	26.0		11.0	26.0	31.0	
Total Split (s)	37.0		19.0	56.0	34.0	
Total Split (%)	41.1%		21.1%	62.2%	37.8%	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	
Lead/Lag	Lead		Lag	0.0	0.0	
	Yes		Yes			
Lead-Lag Optimize?				C May	None	
Recall Mode	C-Max		None	C-Max	None	
Act Effct Green (s)	50.9		69.9	71.1	10.5	
Actuated g/C Ratio	0.57		0.78	0.79	0.12	



	-	*	1	-		-
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
v/c Ratio	0.26		0.23	0.29	0.58	-
Control Delay	12.0		3.6	3.3	49.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	12.0		3.6	3.3	49.2	
LOS	В		Α	Α	D	
Approach Delay	12.0			3.4	49.2	
Approach LOS	В			Α	D	
Queue Length 50th (ft)	84		18	45	60	
Queue Length 95th (ft)	136		37	81	99	
Internal Link Dist (ft)	103			173	823	
Turn Bay Length (ft)			200			
Base Capacity (vph)	1146		852	1569	506	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.26		0.23	0.29	0.22	
Intersection Summary						

intersection Summar

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:WBTL and 5:EBT, Start of Yellow

Natural Cycle: 70

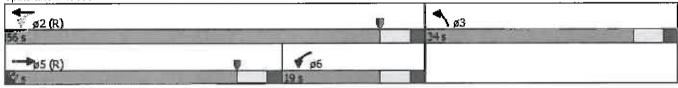
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.58 Intersection Signal Delay: 10.7 Intersection Capacity Utilization 46.2%

Intersection LOS: B ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2: LINCOLN AVENUE & ANDERSON HILL ROAD



	*	-	4	•	1	1
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		4	fà		¥	
Volume (vph)	6	238	350	3	2	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	14	14
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.999		0.919	
Fit Protected		0.999			0.980	
Satd. Flow (prot)	0	1799	1799	0	1789	0
FIt Permitted		0.999			0.980	
Satd. Flow (perm)	0	1799	1799	0	1789	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		659	1283		228	
Travel Time (s)		15.0	29.2		5.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	7	267	393	3	2	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	274	396	0	5	0
Sign Control		Free	Free		Stop	
Intersection Summary						

Other

Control Type: Unsignalized

Intersection Capacity Utilization 28.6%

Analysis Period (min) 15

ICU Level of Service A

	1	-	-	*	1	4			
Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations		4	†		¥		- · -		
Volume (veh/h)	6	238	350	3	2	3			
Sign Control		Free	Free		Stop				
Grade		0%	0%		0%				
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89			
Hourly flow rate (vph)	7	267	393	3	2	3			
Pedestrians									
Lane Width (ft)									
Walking Speed (ft/s) Percent Blockage									
Right turn flare (veh)									
Median type		None	None						
Median storage veh)		140110	110110						
Upstream signal (ft)		659							
pX, platoon unblocked									
vC, conflicting volume	397				676	395			
vC1, stage 1 conf vol									
vC2, stage 2 conf vol									
vCu, unblocked vol	397				676	395			
tC, single (s)	4.1				6.4	6.2			
tC, 2 stage (s)									
tF (s)	2.2				3.5	3.3			
p0 queue free %	99				99	99			
cM capacity (veh/h)	1162				416	654			
Direction, Lane #	EB 1	WB 1	SB 1						
Volume Total	274	397	6						
Volume Left	7	0	2						
Volume Right	0	3	3						
cSH	1162	1700	533						
Volume to Capacity	0.01	0.23	0.01 1						
Queue Length 95th (ft)	0 0.3	0 0.0	11.8						
Control Delay (s) Lane LOS	0.3 A	0.0	11.6 B						
Approach Delay (s)	0.3	0.0	11.8						
Approach LOS	0.0	0.0	В						
Intersection Summary									
Average Delay			0.2						
Intersection Capacity Utilizati	on		28.6%	IC	U Level o	f Service		Α	
Analysis Period (min)			15						

TRINITY PRESBYTERIAN, PURCHASE, NY

Lanes, Volumes, Timings

TRINITY PRESBYTERIAN, PURCHASE, NY
20: PEPSICO DR./SUNY PURCHASE DR. & ANDERSON HILL RD. 2016 NO-BUILD CONDITIONS, SUN. CLASS DEPART. PEAK HOUR

	•	→	*	1	+	A	1	<u>†</u>	*	-	 	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	ተተ	7	ኻ	↑ ↑		*	1	7	*		<u></u>
Volume (vph)	148	120	41	15	167	23	24	5	7	43	0	346
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	10	12	12	12	11	10	10	12	13	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		125	230		0	150		150	0		0
Storage Lanes	- 1		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95
Ped Bike Factor												
Frt			0.850		0.982				0.850		0.850	0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1694	3471	1478	1770	3476	0	1711	1739	1478	1770	1554	1504
Flt Permitted	0.507			0.658			0.577			0.754		
Satd. Flow (perm)	904	3471	1478	1226	3476	0	1039	1739	1478	1405	1554	1504
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109		21				109		692	692
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		294			299			262			300	
Travel Time (s)		6.7			6.8			6.0			6.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	4%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	183	148	51	19	206	28	30	6	9	53	0	427
Shared Lane Traffic (%)												50%
Lane Group Flow (vph)	183	148	51	19	234	0	30	6	9	53	214	213
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6		5	2			3		_	7	_
Permitted Phases	6		6	2			3	_	3	7	_	7
Detector Phase	1	6	6	5	2		3	3	3	7	7	7
Switch Phase												- 0
Minimum Initial (s)	5.0	30.0	30.0	5.0	30.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	36.0	36.0	11.0	36.0		36.0	36.0	36.0	36.0	36.0	36.0
Total Split (s)	15.0	46.0	46.0	15.0	46.0		29.0	29.0	29.0	29.0	29.0	29.0
Total Split (%)	16.7%	51.1%	51.1%	16.7%	51.1%		32.2%	32.2%	32.2%	32.2%	32.2%	32.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Ail-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Recall Mode	None	C-Min	C-Min	None	C-Min		Max	Max	Max	Max	Max	Max
Act Effct Green (s)	43.2	39.6	39.6	37.1	30.1		33.0	33.0	33.0	33.0	33.0	33.0
Actuated g/C Ratio	0.48	0.44	0.44	0.41	0.33		0.37	0.37	0.37	0.37	0.37	0.37

5/8/2014 FREDERICK P. CLARK ASSOCIATES, INC. - MES Synchro 8 Report

Lanes, Volumes, Timings

TRINITY PRESBYTERIAN, PURCHASE, NY

20: PEPSICO DR./SUNY PURCHASE DR. & ANDERSON HILL RD. 2016 NO-BUILD CONDITIONS, SUN. CLASS DEPART. PEAK HOUR

	>	→	*	•	•	*		†	1	-	ļ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL_	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.36	0.10	0.07	0.03	0.20		0.08	0.01	0.01	0.10	0.21	0.22
Control Delay	8.4	9.0	1.3	11.9	20.0		19.4	18.2	0.0	19.6	0.5	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.4	9.0	1.3	11.9	20.0		19.4	18.2	0.0	19.6	0.5	0.5
LOS	Α	Α	Α	В	В		В	В	Α	В	Α	Α
Approach Delay		7.7			19.4			15.4			2.6	
Approach LOS		Α			В			В			Α	
Queue Length 50th (ft)	30	8	0	5	44		11	2	0	20	0	0
Queue Length 95th (ft)	35	28	4	15	64		27	9	0	40	0	0
Internal Link Dist (ft)		214			219			182			220	
Turn Bay Length (ft)	250		125	230			150		150			
Base Capacity (vph)	512	1658	763	586	1556		380	637	610	515	1008	989
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.09	0.07	0.03	0.15		0.08	0.01	0.01	0.10	0.21	0.22

Intersection Summary

Area Type:

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 9 (10%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Other

Natural Cycle: 85

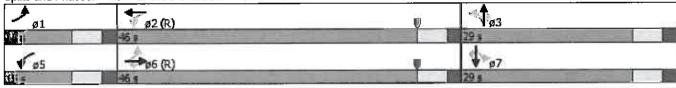
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.36 Intersection Signal Delay: 8.4 Intersection Capacity Utilization 58.4%

Intersection LOS: A ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 20: PEPSICO DR./SUNY PURCHASE DR. & ANDERSON HILL RD.



CAPACITY ANALYSIS WORKSHEETS Build Conditions

TRINITY PRESBYTERIAN, PURCHASE, NY 2016 BUILD CONDITIONS, WEEKDAY AM PEAK HOUR

	*	→	7	•	+	*	4	†	~	-	↓	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		ሻ	4		ሻ	4	
Volume (vph)	41	433	198	71	109	56	67	181	110	169	342	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12	10	11	11	10	10	10
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	150		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.960			0.968			0.943			0.991	
Flt Protected		0.997			0.985		0.950			0.950		
Satd. Flow (prot)	0	1626	0	0	1573	0	1636	1560	0	1560	1690	0
Flt Permitted		0.965			0.641		0.214			0.354		
Satd. Flow (perm)	0	1574	0	0	1024	0	368	1560	0	581	1690	0
Right Turn on Red			No			Yes			No			No
Satd. Flow (RTOR)					23							
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		368			555			224			211	
Travel Time (s)		8.4			12.6			5.1			4.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	15%	8%	7%	17%	13%	17%	3%	8%	16%	8%	3%	20%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	46	487	222	80	122	63	75	203	124	190	384	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	755	0	0	265	0	75	327	0	190	408	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		7			3		2	5		6	1	
Permitted Phases	7			3			5			1		
Detector Phase	7	7		3	3		2	5		6	1	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		3.0	10.0		3.0	10.0	
Minimum Split (s)	8.0	8.0		8.0	8.0		8.0	15.0		8.0	24.0	
Total Split (s)	61.0	61.0		61.0	61.0		10.0	30.0		13.0	33.0	
Total Split (%)	58.7%	58.7%		58.7%	58.7%		9.6%	28.8%		12.5%	31.7%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lag	Lead		Lag	Lead	
Lead-Lag Optimize?							-			_		
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)		49.3			49.3		30.2	$\bar{2}\bar{5}.\bar{3}$		36.2	30.1	
Actuated g/C Ratio		0.51			0.51		0.31	0.26		0.37	0.31	

	1	→	*	1	←	*	1	†	-	-	↓	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.95			0.50		0.42	0.81		0.66	0.78	
Control Delay		44.4			17.7		36.8	52.5		42.4	45.7	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		44.4			17.7		36.8	52.5		42.4	45.7	
LOS		D			В		D	D		D	D	
Approach Delay		44.4			17.7			49.6			44.7	
Approach LOS		D			В			D			D	
Queue Length 50th (ft)		423			94		33	210		90	261	
Queue Length 95th (ft)		#674			161		65	#361		#155	#430	
Internal Link Dist (ft)		288			475			144			131	
Turn Bay Length (ft)							150			150		
Base Capacity (vph)		918			607		181	406		302	524	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.82			0.44		0.41	0.81		0.63	0.78	

Intersection Summary

Area Type: Other

Cycle Length: 104

Actuated Cycle Length: 97.1

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.95 Intersection Signal Delay: 42.0 Intersection Capacity Utilization 76.6%

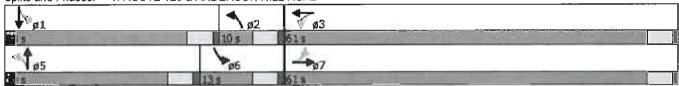
Intersection LOS: D
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: ROUTE 120 & ANDERSON HILL ROAD



	→	7	1	←	4	<i>></i>
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	₽		ሻ	↑	k/f	
Volume (vph)	672	29	98	202	13	529
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	10	14	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	200		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	•
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	,,,,,	,,,,,				
Frt	0.994				0.868	
Fit Protected	0.004		0.950		0.999	
Satd. Flow (prot)	2037	0	1652	1987	1615	0
Flt Permitted	2001	J	0.097	1301	0.999	v
Satd. Flow (perm)	2037	0	169	1987	1615	0
	2031		109	1907	1010	No
Right Turn on Red	'n	Yes				NU
Satd. Flow (RTOR)	3			200	20	
Link Speed (mph)	30			30	30	
Link Distance (ft)	183			253	903	
Travel Time (s)	4.2			5.8	20.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	707	31	103	213	14	557
Shared Lane Traffic (%)						
Lane Group Flow (vph)	738	0	103	213	571	0
Turn Type	NA	Ū	pm+pt	NA	Prot	Ü
Protected Phases	5		рштрі 6	2	3	
Protected Phases Permitted Phases	ວ		2	2	J	
	E		_	n	9	
Detector Phase	5		6	2	3	
Switch Phase	00.0		<i>-</i> ^	00.0		
Minimum Initial (s)	20.0		5.0	20.0	5.0	
Minimum Split (s)	26.0		11.0	26.0	31.0	
Total Split (s)	40.0		11.0	51.0	39.0	
Total Split (%)	44.4%		12.2%	56.7%	43.3%	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max	None	
Act Effct Green (s)	36.5		45.3	45.3	32.7	
Actuated g/C Ratio	0.41		0.50	0.50	0.36	
Actuated 9/O Natio	U. 4 I		0.50	0.00	0.00	

5/8/2014



	-	7	•	4		1
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
v/c Ratio	0.89		0.62	0.21	0.97	
Control Delay	41.3		41.6	12.8	61.5	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	41.3		41.6	12.8	61.5	
LOS	D		D	В	Е	
Approach Delay	41.3			22.2	61.5	
Approach LOS	D			С	Ε	
Queue Length 50th (ft)	400		29	61	313	
Queue Length 95th (ft)	#640		#84	102	#528	
Internal Link Dist (ft)	103			173	823	
Turn Bay Length (ft)			200			
Base Capacity (vph)	828		167	1001	592	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.89		0.62	0.21	0.96	
Intersection Summary						

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:WBTL and 5:EBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

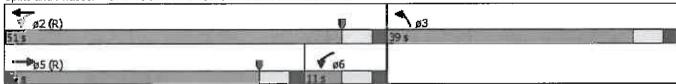
Intersection Signal Delay: 44.7 Intersection Capacity Utilization 91.0% Intersection LOS: D
ICU Level of Service F

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: LINCOLN AVENUE & ANDERSON HILL ROAD



5/8/2014 FREDERICK P. CLARK ASSOCIATES, INC. - MES

	→	→	-	4	-	1
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		4	*		¥	
Volume (vph)	7	669	235	3	3	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	14	14
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.998		0.894	
Flt Protected		0.999			0.989	
Satd. Flow (prot)	0	1799	1797	0	1757	0
Flt Permitted		0.999			0.989	
Satd. Flow (perm)	0	1799	1797	0	1757	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		104	259		228	
Travel Time (s)		2.4	5.9		5.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	8	743	261	3	3	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	751	264	0	14	0
Sign Control		Free	Free		Stop	
Intersection Summary						

Other

Control Type: Unsignalized

Intersection Capacity Utilization 50.8%

Analysis Period (min) 15

	*	→	—	4	-	1		
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations Volume (veh/h) Sign Control	7	4 669 Free	‡→ 235 Free	3	3 Stop	10		
Grade		0%	0%		0%			
Peak Hour Factor Hourly flow rate (vph) Pedestrians Lane Width (ft) Walking Speed (ft/s)	0.90 8	0.90 743	0.90 261	0.90 3	0.90 3	0.90 11		
Percent Blockage								
Right turn flare (veh) Median type Median storage veh)		None	None					
Upstream signal (ft)		659						
pX, platoon unblocked vC, conflicting volume	264				0.95 1022	263		
vC1, stage 1 conf vol vC2, stage 2 conf vol								
vCu, unblocked vol	264				997	263		
tC, single (s) tC, 2 stage (s)	4.1				6.4	6.2		
tF (s)	2.2				3.5	3.3		
p0 queue free %	99				99	99		
cM capacity (veh/h)	1300				256	776		
Direction, Lane #	EB 1	WB 1	SB 1					
Volume Total	751	264	14					
Volume Left	8	0	3					
Volume Right	0	3	11					
cSH	1300	1700	528 0.03					
Volume to Capacity	0.01 0	0.16	0.03					
Queue Length 95th (ft) Control Delay (s)	0.2	0 0.0	12.0					
Lane LOS	0.2 A	0.0	12.0 B					
Approach Delay (s)	0.2	0.0	12.0					
Approach LOS	0.2	0.0	В					
Intersection Summary								
Average Delay	-		0.3					
Intersection Capacity Utiliza	tion		50.8%	IC	U Level o	f Service	Α	
Analysis Period (min)			15					

	•	†	*	•	+	•	4	†	<i>*</i>	-	Į.	- ✓
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	^	7	*	ተ ኈ		ሻ	†	7	ሻ	4	7
Volume (vph)	312	216	673	198	147	44	60	6	15	24	6	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	10	12	12	12	11	10	10	12	13	12
Grade (%)		0%	10	12	0%	12	• • • • • • • • • • • • • • • • • • • •	0%	10	12	0%	12
Storage Length (ft)	250	070	125	230	070	0	150	070	150	0	070	0
Storage Lanes	1		1	1		0	1		100	1		1
Taper Length (ft)	25		'	25		U	25		'	25		1
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95
Ped Bike Factor	1.00	0.55	1.00	1.00	0.55	0.55	1.00	1.00	1.00	1.00	0.33	0.55
Frt			0.850		0.965				0.850		0.867	0.850
FIt Protected	0.950		0.650	0.950	0.900		0.950		0.650	0.950	0.007	0.650
	1662	3112	1478	1770	3201	0	1711	1739	1478	1656	1470	1382
Satd. Flow (prot) Flt Permitted	0.521	3112	14/0	0.608	3201	U	0.721	1738	1470	0.754	1470	1302
		2440	4.470		2004	٥		4720	4.470		4470	4000
Satd. Flow (perm)	911	3112	1478	1133	3201	0	1298	1739	1478	1314	1470	1382
Right Turn on Red			Yes		47	Yes			Yes		47	Yes
Satd. Flow (RTOR)		20	716		47			20	182		47	182
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		294			299			262			300	
Travel Time (s)		6.7			6.8			6.0			6.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	16%	2%	2%	10%	5%	2%	2%	2%	9%	2%	11%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)		00/			0%			00/			00/	
Mid-Block Traffic (%)	332	0% 230	716	211	156	47	64	0% 6	16	26	0% 6	99
Adj. Flow (vph) Shared Lane Traffic (%)	332	230	110	211	100	47	04	б	סו	20	0	47%
. ,	332	230	716	211	203	0	64	6	16	26	53	47 % 52
Lane Group Flow (vph) Turn Type		NA	Perm		NA	U	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	pm+pt	6	Fellii	pm+pt 5	2		reiiii	3	Feiiii	reiiii	7	Leiiii
Permitted Phases	6	U	6	2	2		3	J	3	7	,	7
Detector Phase	1	6	6	5	2		3	3	3	7	7	7
Switch Phase	,	U	U	3	2		3	J	J	1	,	,
Minimum Initial (s)	5.0	30.0	30.0	5.0	30.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	36.0	36.0	11.0	36.0		36.0	36.0	36.0	36.0	36.0	36.0
Total Split (s)	18.0	43.0	43.0	11.0	36.0		36.0	36.0	36.0	36.0	36.0	36.0
Total Split (%)	20.0%	47.8%	47.8%	12.2%	40.0%		40.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4,0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		0.0	0.0	0.0	0.0	0,0	0.0
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Recall Mode	None	C-Min	C-Min	None	C-Min		Max	Max	Max	Max	Max	Max
Act Effct Green (s)	48.0	37.0	37.0	35.1	30.1		30.0	30.0	30.0	30.0	30.0	30.0
Actuated g/C Ratio	0.53	0.41	0.41	0.39	0.33		0.33	0.33	0.33	0.33	0.33	0.33

Lanes, Volumes, Timings
20: PEPSICO DR./SUNY PURCHASE DR. & ANDERSON HILL ROAD

TRINITY PRESBYTERIAN, PURCHASE, NY 2016 BUILD CONDITIONS. WEEKDAY AM PEAK HOUR

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	•	-	*	•	-			†	1	-	↓	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.57	0.18	0.70	0.44	0.18		0.15	0.01	0.03	0.06	0.10	0.09
Control Delay	8.2	10.4	4.3	17.7	16.7		22.3	20.2	0.1	21.0	8.1	0.3
Queue Delay	0.0	0.0	0.8	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.2	10.4	5.0	17.7	16.7		22.3	20.2	0.1	21.0	8.1	0.3
LOS	Α	В	Α	В	В		С	С	Α	С	Α	Α
Approach Delay		6.8			17.3			18.0			7.6	
Approach LOS		Α			В			В			Α	
Queue Length 50th (ft)	73	33	35	60	32		25	2	0	10	2	0
Queue Length 95th (ft)	m79	m37	m49	100	57		55	11	0	28	28	0
Internal Link Dist (ft)		214			219			182			220	
Turn Bay Length (ft)	250		125	230			150		150			
Base Capacity (vph)	586	1279	1029	477	1100		432	579	614	438	521	582
Starvation Cap Reductn	0	0	103	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.18	0.77	0.44	0.18		0.15	0.01	0.03	0.06	0.10	0.09

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 12 (13%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 85

Control Type: Actuated-Coordinated

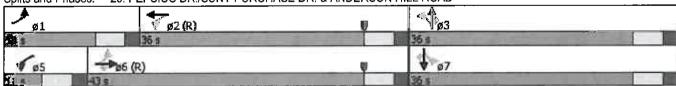
Maximum v/c Ratio: 0.70 Intersection Signal Delay: 9.6 Intersection Capacity Utilization 71.8%

Intersection LOS: A ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 20: PEPSICO DR./SUNY PURCHASE DR. & ANDERSON HILL ROAD



	→	*	1	4	1	1
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	4			4	¥	
Volume (vph)	676	5	0	245	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.999					
Fit Protected						
Satd. Flow (prot)	1861	0	0	1863	1863	0
Flt Permitted						
Satd. Flow (perm)	1861	0	0	1863	1863	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	555			104	258	
Travel Time (s)	12.6			2.4	5.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	735	5	0	266	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	740	0	0	266	0	0
Sign Control	Free			Free	Stop	
Intersection Summary						

Other

Control Type: Unsignalized

Intersection Capacity Utilization 39.2% Analysis Period (min) 15

	-	*	1	+	1	*	
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	4			4	N/		
Volume (veh/h)	676	5	0	245	0	0	
Sign Control	Free			Free	Stop		
Grade	0%			0%	0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	735	5	0	266	0	0	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s) Percent Blockage							
Right turn flare (veh)							
Median type	None			None			
Median storage veh)	140116			NOHE			
Upstream signal (ft)	555						
pX, platoon unblocked	000		0.94		0.94	0.94	
vC, conflicting volume			740		1004	738	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol			692		972	689	
tC, single (s)			4.1		6.4	6.2	
tC, 2 stage (s)							
tF (s)			2.2		3.5	3.3	
p0 queue free %			100		100	100	
cM capacity (veh/h)			849		263	419	
Direction, Lane #	EB 1	WB 1	NB 1				
Volume Total	740	266	0				
Volume Left	0	0	0				
Volume Right	5	0	0				
cSH	1700	849	1700				
Volume to Capacity	0.44	0.00	0.00				
Queue Length 95th (ft)	0	0	0				
Control Delay (s) Lane LOS	0.0	0.0	0.0 A				
Approach Delay (s)	0.0	0.0	0.0				
Approach LOS	0.0	0.0	0.0 A				
			,,				
Intersection Summary			0.0				·
Average Delay Intersection Capacity Utiliza	tion		39.2%	IC.	U Level o	f Service	Α
Analysis Period (min)	IIION		39.276 15	10	0 124510	I OEI VICE	n
Analysis Estible (IIIIII)			;5				

	-	7	1	♣—	1	1
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1}			4	N/F	
Volume (vph)	672	0	1	238	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt						
Flt Protected						
Satd. Flow (prot)	1863	0	0	1863	1863	0
FIt Permitted						
Satd. Flow (perm)	1863	0	0	1863	1863	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	259			1024	210	
Travel Time (s)	5.9			23.3	4.8	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)	•	_	_	-	-	_
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	730	0	1	259	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	730	0	0	260	0	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Intersection Summary						

Other

Control Type: Unsignalized Intersection Capacity Utilization 38.7%

Analysis Period (min) 15

	-	•	•	—	1	*	
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations Volume (veh/h) Sign Control	5 672 Free	0	1	238 Free	0 Stop	0	
Grade	0%			0%	0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph) Pedestrians Lane Width (ft) Walking Speed (ft/s) Percent Blockage	730	0	1	259	0	0	
Right turn flare (veh) Median type Median storage veh)	None			None			
Upstream signal (ft)	918						
pX, platoon unblocked			0.98		0.98	0.98	
vC, conflicting volume vC1, stage 1 conf vol vC2, stage 2 conf vol			730		991	730	
vCu, unblocked vol			717		983	717	
tC, single (s) tC, 2 stage (s)			4.1		6.4	6.2	
tF (s)			2.2		3.5	3.3	
p0 queue free % cM capacity (veh/h)			100 869		100 27 1	100 422	
Direction, Lane #	EB 1	WB 1	NB 1				
Volume Total	730	260	0				
Volume Left	0	1	0				
Volume Right	0 4700	0	4700				
cSH	1700 0.43	869 0.00	1700 0.00				
Volume to Capacity Queue Length 95th (ft)	0.43	0.00	0.00				
Control Delay (s)	0.0	0.1	0.0				
Lane LOS	0.0	Α	0.0 A				
Approach Delay (s)	0.0	0.1	0.0				
Approach LOS	0.0	4	A				
Intersection Summary							
Average Delay			0.0				
Intersection Capacity Utilizat	tion		38.7%	IC	U Level o	f Service	A
Analysis Period (min)			15				

TRINITY PRESBYTERIAN, PURCHASE, NY 2016 BUILD CONDITIONS, WEEKDAY PM PEAK HOUR

_	<u></u> →	→	~	•	←	A.	4	†	<i>></i>	/	↓	√
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		*	1>		*	 	
Volume (vph)	67	216	91	80	364	144	169	296	59	74	157	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12	10	11	11	10	10	10
Grade (%)	• •	0%			0%		-	0%			0%	
Storage Length (ft)	0	0.0	0	0		0	150		0	150		0
Storage Lanes	0		Ō	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00		1.00		
Frt		0.967			0.967			0.975			0.972	
Flt Protected		0.991			0.993		0.950			0.950		
Satd. Flow (prot)	0	1683	0	0	1772	0	1620	1744	0	1652	1647	0
Flt Permitted		0.787			0.889		0.588			0.324		
Satd. Flow (perm)	0	1337	0	0	1587	0	1003	1744	0	563	1647	0
Right Turn on Red	_		No	-		Yes			No			No
Satd. Flow (RTOR)					30							
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		368			533			224			211	
Travel Time (s)		8.4			12.1			5.1			4.8	
Confl. Peds. (#/hr)		0.1						• • • • • • • • • • • • • • • • • • • •	1	1		
Confl. Bikes (#/hr)									•	•		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	3%	8%	9%	2%	2%	4%	2%	4%	2%	5%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)	-		•	-	_	_	_		-			
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	72	232	98	86	391	155	182	318	63	80	169	38
Shared Lane Traffic (%)				•	• • • • • • • • • • • • • • • • • • • •							
Lane Group Flow (vph)	0	402	0	0	632	0	182	381	0	80	207	0
Turn Type	Perm	NA	•	Perm	NA	-	pm+pt	NA		pm+pt	NA	_
Protected Phases	. •	7			3		2	5		6	1	
Permitted Phases	7			3	_		5			1		
Detector Phase	7	7		3	3		2	5		6	1	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		3.0	10.0		3.0	10.0	
Minimum Split (s)	8.0	8.0		8.0	8.0		8.0	15.0		8.0	24.0	
Total Split (s)	36.0	36.0		36.0	36.0		10.0	24.0		10.0	24.0	
Total Split (%)	51.4%	51.4%		51.4%	51.4%		14.3%	34.3%		14.3%	34.3%	
Maximum Green (s)	31.0	31.0		31.0	31.0		5.0	19.0		5.0	19.0	
Yeilow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	1.5	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag		0.0			0.0		Lag	Lead		Lag	Lead	
Lead-Lag Optimize?							-~ყ			-~ჟ		
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	

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TRINITY PRESBYTERIAN, PURCHASE, NY 2016 BUILD CONDITIONS, WEEKDAY PM PEAK HOUR

	1	→	*	•	←	4	1	†	1	-	Į.	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)											7.0	
Flash Dont Walk (s)											12.0	
Pedestrian Calls (#/hr)											0	
Act Effct Green (s)		27.9			27.9		25.1	21.3		24.0	19.1	
Actuated g/C Ratio		0.42			0.42		0.38	0.32		0.36	0.29	
v/c Ratio		0.72			0.93		0.43	0.69		0.28	0.44	
Control Delay		24.8			40.9		18.5	31.0		17.9	24.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		24.8			40.9		18.5	31.0		17.9	24.3	
LOS		С			D		В	С		В	С	
Approach Delay		24.8			40.9			26.9			22.5	
Approach LOS		С			D			С			С	
Queue Length 50th (ft)		132			227		50	152		20	74	
Queue Length 95th (ft)		231			#432		92	#287		45	134	
Internal Link Dist (ft)		288			453			144			131	
Turn Bay Length (ft)							150			150		
Base Capacity (vph)		622			754		424	554		284	470	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.65			0.84		0.43	0.69		0.28	0.44	
Intersection Summary												

Area Type:

Cycle Length: 70

Actuated Cycle Length: 66.9

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

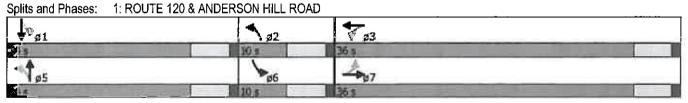
Maximum v/c Ratio: 0.93 Intersection Signal Delay: 30.5 Intersection Capacity Utilization 76.0%

Intersection LOS: C ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

Other



5/8/2014 FREDERICK P. CLARK ASSOCIATES, INC. - MES Synchro 8 Report

2016 BUILD CONDITIONS, WEEKDAY PM PEAK HOUR

	-	7	•	←	1	-
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	4		ሻ	^	γ/	
Volume (vph)	316	28	420	578	22	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	10	14	12	12
Grade (%)	0%	10	10	0%	0%	12
· · · · · · · · · · · · · · · · · · ·	070	0	200	070	0	0
Storage Length (ft)		0				0
Storage Lanes		U	1		1	U
Taper Length (ft)	4.00	4.00	25	4.00	25	4.00
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.989				0.882	
FIt Protected			0.950		0.994	
Satd. Flow (prot)	2026	0	1652	1987	1633	0
Flt Permitted			0.390		0.994	
Satd. Flow (perm)	2026	0	678	1987	1633	0
Right Turn on Red		Yes				No
Satd. Flow (RTOR)	4					
Link Speed (mph)	30			30	30	
Link Opeca (mph) Link Distance (ft)	183			253	903	
Travel Time (s)	4.2			5.8	20.5	
Confl. Peds. (#/hr)	٦.۷			5.0	20.0	
, .						
Confl. Bikes (#/hr)	0.00	0.00	0.00	0.00	0.00	0.00
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	343	30	457	628	24	168
Shared Lane Traffic (%)						
Lane Group Flow (vph)	373	0	457	628	192	0
Turn Type	NA	-	pm+pt	NA	Prot	-
Protected Phases	5		6	2	3	
Permitted Phases	J		2	_	J	
Detector Phase	5		6	2	3	
	ŋ		Ö	2	ა	
Switch Phase	00.0			00.0	г ^	
Minimum Initial (s)	20.0		5.0	20.0	5.0	
Minimum Split (s)	26.0		11.0	26.0	31.0	
Total Split (s)	32.0		33.0	65.0	31.0	
Total Split (%)	33.3%		34.4%	67.7%	32.3%	
Maximum Green (s)	26.0		27.0	59.0	25.0	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	2.0		2.0	2.0	2.0	
Minimum Gap (s)	2.0		2.0	2.0	2.0_	

5/8/2014 FREDERICK P. CLARK ASSOCIATES, INC. - MES

	-	7	-	1	<i>*</i>		
Lane Group	EBT	EBR WBI	. WBT	NBL	NBR	_	
Time Before Reduce (s)	0.0	0.0	0.0	0.0			
Time To Reduce (s)	0.0	0.0	0.0	0.0			
Recall Mode	C-Max	None	C-Max	None			
Walk Time (s)				8.0			
Flash Dont Walk (s)				17.0			
Pedestrian Calls (#/hr)				0			
Act Effct Green (s)	43.5	68.4	68.4	15.6			
Actuated g/C Ratio	0.45	0.71	0.71	0.16			
v/c Ratio	0.41	0.68	0.44	0.72			
Control Delay	22.7	10.2	5.5	52.9			
Queue Delay	0.0	0.0	0.2	0.0			
Total Delay	22.7	10.2	5.7	52.9			
LOS	С	E	i A	D			
Approach Delay	22.7		7.6	52.9			
Approach LOS	С		Α	D			
Queue Length 50th (ft)	144	99	140	112			
Queue Length 95th (ft)	301	m138	m177	173			
Internal Link Dist (ft)	103		173	823			
Turn Bay Length (ft)		200	ŀ				
Base Capacity (vph)	920	762	1414	425			
Starvation Cap Reductn	0	(244	0			
Spillback Cap Reductn	0	(0	0			
Storage Cap Reductn	0	C	0	0			
Reduced v/c Ratio	0.41	0.60	0.54	0.45			
Intersection Summary							

Area Type: Other

Cycle Length: 96

Actuated Cycle Length: 96

Offset: 61 (64%), Referenced to phase 2:WBTL and 5:EBT, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

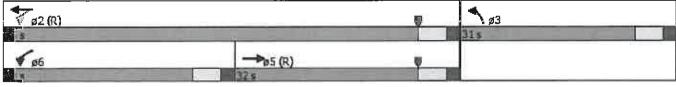
Maximum v/c Ratio: 0.72 Intersection Signal Delay: 16.3 Intersection Capacity Utilization 67.4%

Intersection LOS: B ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: LINCOLN AVENUE & ANDERSON HILL ROAD



5/8/2014 FREDERICK P. CLARK ASSOCIATES, INC. - MES

	1	-	+	4	-	1
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		4	^		¥	
Volume (vph)	9	318	583	1	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	14	14
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt					0.865	
Flt Protected		0.999				
Satd. Flow (prot)	0	1799	1801	0	1719	0
FIt Permitted		0.999				
Satd. Flow (perm)	0	1799	1801	0	1719	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		125	289		228	
Travel Time (s)		2.8	6.6		5.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	10	342	627	1	0	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	352	628	0	1	0
Sign Control		Free	Free		Stop	
Intersection Summary						

Other

Control Type: Unsignalized

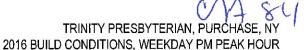
Intersection Capacity Utilization 40.7%

Analysis Period (min) 15

	۶	→	4-	4	1	4	
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations Volume (veh/h) Sign Control	9	4 318 Free	583 Free	1	0 Stop	1	
Grade		0%	0%		0%		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	
Hourly flow rate (vph) Pedestrians Lane Width (ft) Walking Speed (ft/s) Percent Blockage Right turn flare (veh)	10	342	627	1	0	1	
Median type Median storage veh)		None	None				
Upstream signal (ft)		658					
pX, platoon unblocked vC, conflicting volume vC1, stage 1 conf vol	628				989	627	
vC2, stage 2 conf vol vCu, unblocked vol	628				989	6 2 7	
tC, single (s)	4.1				6.4	6.2	
tC, 2 stage (s)					***		
tF(s)	2.2				3.5	3.3	
p0 queue free %	99				100	100	
cM capacity (veh/h)	954				271	483	
Direction, Lane #	EB 1	WB 1	SB 1				
Volume Total	352	628	1				
Volume Left	10	0	0				
Volume Right	0	1	1				
cSH	954	1700	483				
Volume to Capacity	0.01	0.37	0.00				
Queue Length 95th (ft)	1	0	0				
Control Delay (s)	0.4	0.0	12.5				
Lane LOS	Α	0.0	B				
Approach Delay (s) Approach LOS	0.4	0.0	12.5 B				
Intersection Summary							
Average Delay			0.1				
Intersection Capacity Utilization Analysis Period (min)	1		40.7% 15	ICI	J Level o	Service	

TRINITY PRESBYTERIAN, PL 2016 BUILD CONDITIONS, WEEKDAY PM PEAK HOUR

20: PEPSICO DR./SUNY PURCHASE DR. & ANDERSON HILL ROAD 20								2010 BUILD CONDITIONS, WEEKDAT PIVI PEAK HOUR						
	•	→	-	1	—	•	1	1	1	-	↓	1		
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations	15	ተተ	7	ሻ	† ‡		7	†	7	ሻ	4	7		
Volume (vph)	231	174	66	24	306	34	439	5	148	59	5	253		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	11	12	10	12	12	12	11	10	10	12	13	12		
Grade (%)		0%			0%			0%			0%			
Storage Length (ft)	250		125	230		0	150		150	0		0		
Storage Lanes	1		1	1		0	1		1	1		1		
Taper Length (ft)	25			25			25			25				
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95		
Ped Bike Factor		5.55			0.00	0.00					0,00			
Frt			0.850		0.985				0.850		0.856	0.850		
FIt Protected	0.950		0.000	0.950	0.000		0.950		0.000	0.950		*****		
Satd. Flow (prot)	1711	3471	1478	1770	3403	0	1711	1739	1478	1719	1551	1490		
Flt Permitted	0.442	0111		0.638	0,00	ŭ	0.667			0.754				
Satd. Flow (perm)	796	3471	1478	1188	3403	0	1201	1739	1478	1364	1551	1490		
Right Turn on Red	100	0471	Yes	1100	0400	Yes	1201	1700	Yes	1001	1001	Yes		
Satd. Flow (RTOR)			102		13	103			154		129	135		
Link Speed (mph)		30	102		30			30	104		30	100		
Link Opeca (mph) Link Distance (ft)		294			299			262			300			
Travel Time (s)		6.7			6.8			6.0			6.8			
Confl. Peds. (#/hr)		0.7			0.0			0.0			0.0			
Confl. Bikes (#/hr)														
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96		
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%		
Heavy Vehicles (%)	2%	4%	2%	2%	4%	9%	2%	2%	2%	5%	2%	3%		
• • •	0	4 70	0	0	4 %	0	0	0	270	0	270	0		
Bus Blockages (#/hr)	U	U	U	U	U	U	U	U	U	U	U	U		
Parking (#/hr) Mid-Block Traffic (%)		0%			0%			0%			0%			
, .	241	181	69	25	319	35	457	5	154	61	5	264		
Adj. Flow (vph)	241	101	09	20	318	30	407	J	104	ŲΙ	J	49%		
Shared Lane Traffic (%)	241	181	69	25	354	0	457	5	154	61	134	135		
Lane Group Flow (vph)					NA	U	Perm	NA	Perm	Perm	NA	Perm		
Turn Type Protected Phases	pm+pt	NA 6	Perm	pm+pt	2		Perm	3	Perm	Penn	7	Penn		
	1	0	e	5	2		2	3	2	7	,	7		
Permitted Phases	6	c	6 6	2 5	2		3 3	3	3	7 7	7	7 7		
Detector Phase	1	6	O	5	2		3	3	Ş	1	,	1		
Switch Phase	EΛ	20.0	20.0	E 0	20.0		EΩ	5.0	ΕΛ	EΛ	E 0	5 0		
Minimum Initial (s)	5.0	30.0	30.0	5.0	30.0		5.0		5.0	5.0	5.0	5.0		
Minimum Split (s)	11.0	36.0	36.0	11.0	36.0		36.0	36.0	36.0	36.0	36.0	36.0		
Total Split (s)	12.0	37.0	37.0	11.0	36.0		48.0	48.0	48.0	48.0	48.0	48.0		
Total Split (%)	12.5%	38.5%	38.5%	11.5%	37.5%		50.0%	50.0%	50.0%	50.0%	50.0%	50.0%		
Maximum Green (s)	6.0	31.0	31.0	5.0	30.0		42.0	42.0	42.0	42.0	42.0	42.0		
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0		
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0		
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0		
Lead/Lag	Lead	Lag	Lag	Lead	Lag									
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes									
Vehicle Extension (s)	4.0	2.0	2.0	4.0	2.0		4.0	4.0	4.0	2.0	2.0	2.0		
Minimum Gap (s)	4.0	2.0	2.0	4.0	2.0		4.0	4.0	4.0	2.0	2.0	2.0		



	۶	-	*	1	←		4	†	1	-	↓	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	C-Min	None	C-Min		None	None	None	None	None	None
Walk Time (s)							8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)							22.0	22.0	22.0	22.0	22.0	22.0
Pedestrian Calls (#/hr)							0	0	0	0	0	0
Act Effct Green (s)	42.3	39.9	39.9	36.8	31.2		39.7	39.7	39.7	39.7	39.7	39.7
Actuated g/C Ratio	0.44	0.42	0.42	0.38	0.32		0.41	0.41	0.41	0.41	0.41	0.41
v/c Ratio	0.58	0.13	0.10	0.05	0.32		0.92	0.01	0.22	0.11	0.19	0.19
Control Delay	15.0	10.0	4.6	16.0	24.9		52.4	15.4	3.6	16.8	4.0	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.0	10.0	4.6	16.0	24.9		52.4	15.4	3.6	16.8	4.0	3.7
LOS	В	В	Α	В	С		D	В	Α	В	Α	Α
Approach Delay		11.7			24.3			39.9			6.2	
Approach LOS		В			С			D			Α	
Queue Length 50th (ft)	87	32	6	8	83		246	2	0	21	2	0
Queue Length 95th (ft)	52	42	25	24	122		#438	8	35	46	36	34
Internal Link Dist (ft)		214			219			182			220	
Turn Bay Length (ft)	250		125	230			150		150			
Base Capacity (vph)	418	1442	674	489	1113		525	760	733	596	751	727
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.13	0.10	0.05	0.32		0.87	0.01	0.21	0.10	0.18	0.19
Intersection Summary												

Other

Cycle Length: 96

Actuated Cycle Length: 96

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 85

Control Type: Actuated-Coordinated

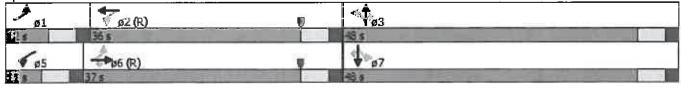
Maximum v/c Ratio: 0.92 Intersection Signal Delay: 22.9 Intersection Capacity Utilization 83.8%

Intersection LOS: C ICU Level of Service E

Analysis Period (min) 15

Queue shown is maximum after two cycles.

Splits and Phases: 20: PEPSICO DR./SUNY PURCHASE DR. & ANDERSON HILL ROAD



5/8/2014 FREDERICK P. CLARK ASSOCIATES, INC. - MES

^{# 95}th percentile volume exceeds capacity, queue may be longer.

	-	7	*	₩	4	1
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	A			4	¥	
Volume (vph)	327	0	0	584	6	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt						
Fit Protected					0.950	
Satd. Flow (prot)	1863	0	0	1863	1770	0
FIt Permitted					0.950	
Satd. Flow (perm)	1863	0	0	1863	1770	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	533			125	223	
Travel Time (s)	12.1			2.8	5.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	355	0	0	635	7	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	355	0	0	635	7	0
Sign Control	Free			Free	Stop	
Intersection Summary						

Other

Control Type: Unsignalized

Intersection Capacity Utilization 40.7%

Analysis Period (min) 15

ICU Level of Service A

5/8/2014 FREDERICK P. CLARK ASSOCIATES, INC. - MES

	-	*	•	+	4	-		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	1>			4	k/f			
Volume (veh/h)	327	0	0	584	6	0		
Sign Control	Free			Free	Stop			
Grade	0%			0%	0%			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly flow rate (vph)	355	0	0	635	7	0		
Pedestrians								
Lane Width (ft) Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type	None			None				
Median storage veh)	110110			110110				
Upstream signal (ft)	533							
pX, platoon unblocked								
vC, conflicting volume			355		990	355		
vC1, stage 1 conf vol								
vC2, stage 2 conf vol								
vCu, unblocked vol			355		990	355		
tC, single (s)			4.1		6.4	6.2		
tC, 2 stage (s)					0.5	0.0		
tF (s)			2.2		3.5	3.3		
p0 queue free %			100 1203		98 273	100 689		
cM capacity (veh/h)					213	009		
Direction, Lane #	EB 1	WB 1	NB 1				 -	
Volume Total	355	635	7					
Volume Left	0	0 0	7 0					
Volume Right cSH	1700	1203	273					
Volume to Capacity	0.21	0.00	0.02					
Queue Length 95th (ft)	0.21	0.00	2					
Control Delay (s)	0.0	0.0	18.5					
Lane LOS			C					
Approach Delay (s)	0.0	0.0	18.5					
Approach LOS			С					
Intersection Summary								
Average Delay			0.1					
Intersection Capacity Utiliza	tion		40.7%	IC	U Level o	f Service	Α	
Analysis Period (min)			15					

	-	7	1	—	1	1
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1			4	¥	
Volume (vph)	318	0	0	584	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt					0.865	
FIt Protected						
Satd. Flow (prot)	1863	0	0	1863	1611	0
FIt Permitted						
Satd. Flow (perm)	1863	0	0	1863	1611	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	289			994	195	
Travel Time (s)	6.6			22.6	4.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)	•		•			
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	346	0	0	635	0	1
Shared Lane Traffic (%)		,	,		-	-
Lane Group Flow (vph)	346	0	0	635	1	0
Sign Control	Free			Free	Stop	
Intersection Summary						

Other

Control Type: Unsignalized Intersection Capacity Utilization 40.7%

Analysis Period (min) 15

	-	*	•	4-	*	*		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	4	_	_	4	¥			
Volume (veh/h)	318	0	0	_584	0	1		
Sign Control	Free			Free	Stop			
Grade	0%			0%	0%			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly flow rate (vph)	346	0	0	635	0	1		
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)	Nana			Mono				
Median type	None			None				
Median storage veh) Upstream signal (ft)	947							
pX, platoon unblocked	341							
vC, conflicting volume			346		980	346		
vC1, stage 1 conf vol			340		500	0+0		
vC2, stage 2 conf vol								
vCu, unblocked vol			346		980	346		
tC, single (s)			4.1		6.4	6.2		
tC, 2 stage (s)								
tF (s)			2.2		3.5	3.3		
p0 queue free %			100		100	100		
cM capacity (veh/h)			1213		277	697		
Direction, Lane #	EB 1	WB 1	NB 1					
Volume Total	346	635	1				 	
Volume Left	0	0	0					
Volume Right	0	0	1					
cSH	1700	1213	697					
Volume to Capacity	0.20	0.00	0.00					
Queue Length 95th (ft)	0	0	0					
Control Delay (s)	0.0	0.0	10.2					
Lane LOS			В					
Approach Delay (s)	0.0	0.0	10.2					
Approach LOS			В					
Intersection Summary								
Average Delay			0.0					
Intersection Capacity Utilizat	ion		40.7%	IC	U Level o	f Service	Α	
Analysis Period (min)			15					

TRINITY PRESBYTERIAN, PURCHASE, NY 2016 BUILD CONDITIONS, SUN. SERVICE ARR. PEAK HOUR

	۶	→	*	€	←	*	1	1	~	/	↓	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	ŞBL	SBT	SBR
Lane Configurations		4			4		¥	4		7	1>	
Volume (vph)	21	208	52	33	62	29	34	89	66	45	130	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12	10	11	11	10	10	10
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	150		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor							1.00	0.99		1.00	1.00	
Frt		0.975			0.968			0.936			0.992	
Fit Protected		0.996			0.987		0.950			0.950		
Satd. Flow (prot)	0	1749	0	0	1775	0	1636	1635	0	1652	1723	0
Fit Permitted		0.969			0.837		0.656			0.644		
Satd. Flow (perm)	0	1701	0	0	1505	0	1128	1635	0	1118	1723	0
Right Turn on Red			No			Yes			No			No
Satd. Flow (RTOR)					26							
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		368			554			224			211	
Travel Time (s)		8.4			12.6			5.1			4.8	
Confl. Peds. (#/hr)							1		1	1		1
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	3%	2%	2%	3%	2%	7%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	24	242	60	38	72	34	40	103	77	52	151	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	326	0	0	144	0	40	180	0	52	160	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		7			3		2	5		6	1	
Permitted Phases	7			3			5			1		
Detector Phase	7	7		3	3		2	5		6	1	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		3.0	10.0		3.0	10.0	
Minimum Split (s)	8.0	8.0		8.0	8.0		8.0	15.0		8.0	24.0	
Total Split (s)	28.0	28.0		28.0	28.0		11.0	17.0		20.0	26.0	
Total Split (%)	43.1%	43.1%		43.1%	43.1%		16.9%	26.2%		30.8%	40.0%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	NI - :	N.I		NI	N1		NI			KI		
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effet Green (s)		13.7			13.7		23.9	18.9		25.5	21.8	
Actuated g/C Ratio		0.28			0.28		0.49	0.38		0.52	0.44	

	*	-	*	1	←		4	†	-	-	Į.	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.69			0.33		0.07	0.29		0.08	0.21	
Control Delay		24.6			14.5		8.3	18.7		7.9	12.9	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		24.6			14.5		8.3	18.7		7.9	12.9	
LOS		С			В		Α	В		Α	В	
Approach Delay		24.6			14.5			16.8			11.7	
Approach LOS		С			В			В			В	
Queue Length 50th (ft)		70			22		2	23		. 6	20	
Queue Length 95th (ft)		160			65		20	116		24	83	
Internal Link Dist (ft)		288			474			144			131	
Turn Bay Length (ft)							150			150		
Base Capacity (vph)		827			745		641	629		925	764	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.39			0.19		0.06	0.29		0.06	0.21	

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 49.2

Natural Cycle: 50

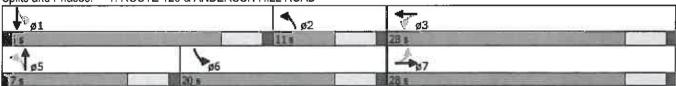
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.69 Intersection Signal Delay: 18.1 Intersection Capacity Utilization 47.9%

Intersection LOS: B ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 1: ROUTE 120 & ANDERSON HILL ROAD



5/8/2014 FREDERICK P. CLARK ASSOCIATES, INC. - MES

	-	*	•	←	4	1
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	<u> </u>		*5	<u></u>	*4	
Volume (vph)	220	12	57	103	16	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	1000	14	12	12
Grade (%)	0%	.0	10	0%	0%	
Storage Length (ft)	070	0	200	O N	0	0
Storage Lanes		0	1		1	0
Taper Length (ft)		U	25		25	U
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00	1.00	1.00	1.00	1.00
	0.000				0.880	
Frt	0.993		0.050			
Fit Protected	0005	•	0.950	4007	0.994	0
Satd. Flow (prot)	2035	0	1652	1987	1629	0
FIt Permitted			0.573	400=	0.994	
Satd. Flow (perm)	2035	0	996	1987	1629	. 0
Right Turn on Red		Yes				No
Satd. Flow (RTOR)	3					
Link Speed (mph)	30			30	30	
Link Distance (ft)	183			253	903	
Travel Time (s)	4.2			5.8	20.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)	v	U	Ů	v	v	v
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	268	15	70	126	20	160
	200	13	10	120	20	100
Shared Lane Traffic (%)	000	0	70	400	400	0
Lane Group Flow (vph)	283	0	70	126	180	0
Turn Type	NA		pm+pt	NA	Prot	
Protected Phases	5		6	2	3	
Permitted Phases	_		2	_	_	
Detector Phase	5		6	2	3	
Switch Phase						
Minimum Initial (s)	20.0		5.0	20.0	5.0	
Minimum Split (s)	26.0		11.0	26.0	31.0	
Total Split (s)	38.0		14.0	52.0	38.0	
Total Split (%)	42.2%		15.6%	57.8%	42.2%	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	
Lead/Lag	Lead		Lag	0.0	0.0	
Lead-Lag Optimize?	Yes		Yes			
- -	C-Max		None	C-Max	None	
Recall Mode	52.3					
Act Effet Green (s)			63.5	63.5	14.5	
Actuated g/C Ratio	0.58		0.71	0.71	0.16	

5/8/2014 FREDERICK P. CLARK ASSOCIATES, INC. - MES

	>	\rightarrow	•	•		-
Lane Group	EBT_	EBR	WBL	WBT	NBL	NBR _
v/c Ratio	0.24		0.09	0.09	0.69	
Control Delay	11.6		4.1	3.8	48.6	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	11.6		4.1	3.8	48.6	
LOS	В		Α	Α	D	
Approach Delay	11.6			3.9	48.6	
Approach LOS	В			Α	D	
Queue Length 50th (ft)	78		8	15	98	
Queue Length 95th (ft)	129		18	27	138	
Internal Link Dist (ft)	103			173	823	
Turn Bay Length (ft)			200			
Base Capacity (vph)	1184		761	1402	579	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.24		0.09	0.09	0.31	
Intersection Summary						

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:WBTL and 5:EBT, Start of Yellow

Other

Natural Cycle: 70

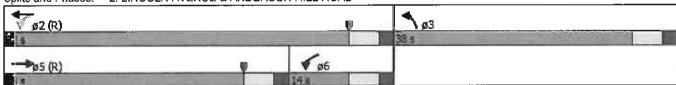
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69 Intersection Signal Delay: 19.4 Intersection Capacity Utilization 44.8%

Intersection LOS: B
ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2: LINCOLN AVENUE & ANDERSON HILL ROAD



	1	→	+	4	-	1
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		4	1>		**	
Volume (vph)	12	242	114	4	0	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	14	14
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.995		0.865	
Flt Protected		0.998				
Satd. Flow (prot)	0	1797	1792	0	1719	0
Flt Permitted		0.998				
Satd. Flow (perm)	0	1797	1792	0	1719	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		105	295		228	
Travel Time (s)		2.4	6.7		5.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	15	299	141	5	0	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	314	146	0	11	0
Sign Control		Free	Free		Stop	
Intersection Summary						

Other

Control Type: Unsignalized Intersection Capacity Utilization 30.1%

Analysis Period (min) 15

	۶	→	+	4	/	4		
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations		4	4		¥			
Volume (veh/h)	12	242	114	4	0	9		
Sign Control		Free	Free		Stop			
Grade		0%	0%		0%			
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81		
Hourly flow rate (vph)	15	299	141	5	0	11		
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type		None	None					
Median storage veh)								
Upstream signal (ft)		659						
pX, platoon unblocked								
vC, conflicting volume	146				472	143		
vC1, stage 1 conf vol								
vC2, stage 2 conf vol	4.40				470	4.40		
vCu, unblocked vol	146				472	143		
tC, single (s)	4.1				6.4	6.2		
tC, 2 stage (s)	0.0				0.5	0.0		
tF (s)	2.2				3.5	3.3		
p0 queue free %	99				100	99		
cM capacity (veh/h)	1436				545	904		
Direction, Lane #	EB 1	WB 1	SB 1					
Volume Total	314	146	11					
Volume Left	15	0	0					
Volume Right	0	5	11					
cSH	1436	1700	904					
Volume to Capacity	0.01	0.09	0.01					
Queue Length 95th (ft)	1	0 0.0	1					
Control Delay (s) Lane LOS	0.4 A	0.0	9.0 A					
Approach Delay (s)	0.4	0.0	9.0					
Approach LOS	0.4	0.0	9.0 A					
• •			^					
Intersection Summary								
Average Delay	41		0.5					
Intersection Capacity Utiliza	ition		30.1%	IC	U Level o	f Service	Α	
Analysis Period (min)			15					

TRINITY PRESBYTERIAN, PURCHASE, NY

Lanes, Volumes, Timings 20: PEPSICO DR./SUNY F	PURCHASE	DR. & Al	NDERSO	N HILL R	OAD :	2016 BUI	ILD CONI				, PURCH/ .RR. PEAI	
	۶	→	*	•	←	4	1	Ť	~	/	Į.	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	^	7	7	ት ቕ		ሻ	†	7	ሻ	4	7
Volume (vph)	245	72	34	11	58	36	20	0	7	12	0	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	10	12	12	12	11	10	10	12	13	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		125	230		0	150		150	0		0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95
Ped Bike Factor												
Frt			0.850		0.942				0.850		0.850	0.850
Fit Protected	0.950			0.950			0.950			0.950		
Satd, Flow (prot)	1711	3539	1478	1770	3334	0	1711	1739	1478	1671	1539	1490
Flt Permitted	0.564			0.694			0.721			0.757		
Satd. Flow (perm)	1016	3539	1478	1293	3334	0	1298	1739	1478	1332	1539	1490
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109		46				858		867	867
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		294			299			262			300	
Travel Time (s)		6.7			6.8			6.0			6.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	8%	2%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	314	92	44	14	74	46	26	0	9	15	0	105
Shared Lane Traffic (%)												50%
Lane Group Flow (vph)	314	92	44	14	120	0	26	0	9	15	53	52
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm		Perm	Perm	NA	Perm
Protected Phases	1	6		5	2			3			7	
Permitted Phases	6		6	2			3		3	7		7
Detector Phase	1	6	6	5	2		3	3	3	7	7	7
Switch Phase												
Minimum Initial (s)	5.0	30.0	30.0	5.0	30.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	36.0	36.0	11.0	36.0		36.0	36.0	36.0	36.0	36.0	36.0
Total Split (s)	18.0	43.0	43.0	11.0	36.0		36.0	36.0	36.0	36.0	36.0	36.0
Total Split (%)	20.0%	47.8%	47.8%	12.2%	40.0%		40.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Recall Mode	None	C-Min	C-Min	None	C-Min		Max	Max	Max	Max	Max	Max
Act Effct Green (s)	48.0	45.8	45.8	35.2	30.2		30.0		30.0	30.0	30.0	30.0
Actuated g/C Ratio	0.53	0.51	0.51	0.39	0.34		0.33		0.33	0.33	0.33	0.33
					<u></u>							

20: PEPSICO DR./SUNY PL	<u>JRCHASE</u>	DR. & AN	IDERSON	HILL RO	DAD 2	2016 BUIL	D COND	ITIONS, S	SUN. SEF	RVICE AF	RR. PEAK	HOUR
	*	→	*	•	←	•	4	†	1	-	↓	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.50	0.05	0.05	0.03	0.10		0.06		0.01	0.03	0.05	0.05
Control Delay	9.0	6.6	0.4	11.0	13.5		21.1		0.0	20.7	0.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0	0.0	0.0
Total Delay	9.0	6.6	0.4	11.0	13.5		21.1		0.0	20.7	0.1	0.1
LOS	Α	Α	Α	В	В		С		Α	С	Α	Α
Approach Delay		7.7			13.2						2.6	
Approach LOS		Α			В						Α	
Queue Length 50th (ft)	35	5	0	4	14		10		0	6	0	0
Queue Length 95th (ft)	43	14	2	11	28		24		0	17	0	0
Internal Link Dist (ft)		214			219			182			220	
Turn Bay Length (ft)	250		125	230			150		150			
Base Capacity (vph)	634	1800	805	532	1148		432		1064	444	1091	1074
Starvation Cap Reductn	0	0	0	0	0		0		0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0		0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0		0	0	0	0
Reduced v/c Ratio	0.50	0.05	0.05	0.03	0.10		0.06		0.01	0.03	0.05	0.05

Intersection Summary

Area Type:

Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 79 (88%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 85

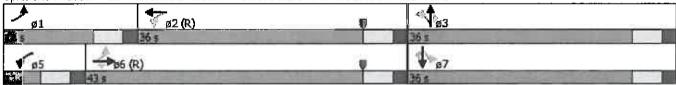
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.50 Intersection Signal Delay: 8.2 Intersection Capacity Utilization 48.3%

Intersection LOS: A ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 20: PEPSICO DR./SUNY PURCHASE DR. & ANDERSON HILL ROAD



	-	*	1	←	4	1
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations				4	W	
Volume (vph)	254	63	0	123	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.958					
Flt Protected						
Satd. Flow (prot)	1785	0	0	1863	1863	0
FIt Permitted						
Satd. Flow (perm)	1785	0	0	1863	1863	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	554			105	198	
Travel Time (s)	12.6			2.4	4.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.50	0.50	0.92	0.50	0.50
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	276	126	0	134	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	402	0	0	134	0	0
Sign Control	Free			Free	Stop	
Intersection Summary						

Other

Control Type: Unsignalized

Intersection Capacity Utilization 20.5%

Analysis Period (min) 15

ICU Level of Service A

5/8/2014 FREDERICK P. CLARK ASSOCIATES, INC. - MES

	-	*	•	←	1	1	
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	1>			4	k/f		
Volume (veh/h)	254	63	0	123	0	0	
Sign Control	Free			Free	Stop		
Grade	0%			0%	0%		
Peak Hour Factor	0.92	0.50	0.50	0.92	0.50	0.50	
Hourly flow rate (vph)	276	126	0	134	0	0	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None			None			
Median storage veh)							
Upstream signal (ft)	554		0.00		0.00	0.00	
pX, platoon unblocked			0.93		0.93	0.93	
vC, conflicting volume			402		473	339	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol			204		207	254	
vCu, unblocked vol			321 4.1		397 6.4	254 6.2	
tC, single (s)			4.1		0.4	0.2	
tC, 2 stage (s) tF (s)			2.2		3.5	3.3	
p0 queue free %			100		100	100	
cM capacity (veh/h)			1154		566	731	
• • • •	ED 4	15/D 4			000	701	
Direction, Lane # Volume Total	EB 1 402	WB 1 134	NB 1 0				
Volume Left	402	0	0				
Volume Right	126	0	0				
cSH	1700	1154	1700				
Volume to Capacity	0.24	0.00	0.00				
Queue Length 95th (ft)	0.24	0.00	0.00				
Control Delay (s)	0.0	0.0	0.0				
Lane LOS	0.0	5.0	A				
Approach Delay (s)	0.0	0.0	0.0				
Approach LOS			А				
Intersection Summary							
Average Delay			0.0				
Intersection Capacity Utilization	on		20.5%	IC	U Level o	f Service	Α
Analysis Period (min)			15				

	→	7	1	-	4	-
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	4			4	¥	
Volume (vph)	242	0	9	118	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt						
Flt Protected				0.994		
Satd. Flow (prot)	1863	0	0	1852	1863	0
Flt Permitted				0.994		
Satd. Flow (perm)	1863	0	0	1852	1863	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	295			987	237	
Travel Time (s)	6.7			22.4	5.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.50	0.50	0.92	0.50	0.50
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	263	0	18	128	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	263	0	0	146	0	0
Sign Control	Free			Free	Stop	
Intersection Summary						

Area Type:

Other

Control Type: Unsignalized

Intersection Capacity Utilization 17.0%

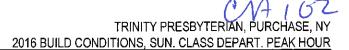
Analysis Period (min) 15

ICU Level of Service A

	→	*	•	←	1	*		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	1		_	्र	¥	_		
Volume (veh/h)	242	0	9	118	0	0		
Sign Control	Free			Free	Stop			
Grade	0%			0%	0%			
Peak Hour Factor	0.92	0.50	0.50	0.92	0.50	0.50		
Hourly flow rate (vph)	263	0	18	128	0	0		
Pedestrians								
ane Width (ft)								
/alking Speed (ft/s)								
ercent Blockage								
ight turn flare (veh)								
edian type	None			None				
ledian storage veh)	054							
pstream signal (ft)	954							
X, platoon unblocked			000		407	000		
C, conflicting volume			263		427	263		
C1, stage 1 conf vol								
C2, stage 2 conf vol			000		407	000		
Cu, unblocked vol			263		427	263		
C, single (s)			4.1		6.4	6.2		
C, 2 stage (s)			0.0		2.5	2.2		
(s)			2.2 99		3.5 100	3.3 100		
0 queue free %						776		
M capacity (veh/h)			1301		576	770		
rection, Lane #	EB 1	WB 1	NB 1					
olume Total	263	146	0					
olume Left	0	18	0					
olume Right	0 1700	1201	1700					
SH olumo to Consoity	1700 0.15	1301 0.01	1700					
olume to Capacity	0.15		0.00 0					
ueue Length 95th (ft)	0.0	1 1.1	0.0					
ontrol Delay (s) ane LOS	0.0	1.1 A	0.0 A					
	0.0	1.1						
oproach Delay (s)	0.0	1.1	0.0 A					
pproach LOS			A					
tersection Summary			C 4					
verage Delay	_		0.4	10	- امیرها -	f Conde-	٨	
ntersection Capacity Utilization	n.		17.0%	IC	u Level o	f Service	Α	
nalysis Period (min)			15					

TRINITY PRESBYTERIAN, PURCHASE, NY 2016 BUILD CONDITIONS, SUN. CLASS DEPART. PEAK HOUR

	•	→	7	•	+	4	4	†	<i>*</i>	/	↓	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		N ₁	4		*	4	
Volume (vph)	23	149	75	73	244	73	61	158	35	62	135	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12	10	11	11	10	10	10
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	150		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.959			0.975			0.973			0.972	
Flt Protected		0.995			0.991		0.950			0.950		
Satd. Flow (prot)	0	1718	0	0	1800	0	1636	1718	0	1652	1690	0
FIt Permitted		0.944			0.880		0.639			0.616		
Satd. Flow (perm)	0	1630	0	0	1598	0	1100	1718	0	1071	1690	0
Right Turn on Red			No			Yes			No			No
Satd. Flow (RTOR)					21							
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		368			555			224			211	
Travel Time (s)		8.4			12.6			5.1			4.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	88.0	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	2%	13%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	26	169	85	83	277	83	69	180	40	70	153	35
Shared Lane Traffic (%)	_			_		_						
Lane Group Flow (vph)	_ 0	280	0	_ 0	443	0	69	220	0	70	188	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	_	7		_	3		2	5		6	1	
Permitted Phases	7	_		3			5	_		1		
Detector Phase	7	7		3	3		2	5		6	1	
Switch Phase		2.0						40.0		0.0	40.0	
Minimum Initial (s)	3.0	3.0		3.0	3.0		3.0	10.0		3.0	10.0	
Minimum Split (s)	8.0	8.0		8.0	8.0		8.0	15.0		8.0	24.0	
Total Split (s)	30.0	30.0		30.0	30.0		11.0	21.0		14.0	24.0	
Total Split (%)	46.2%	46.2%		46.2%	46.2%		16.9%	32.3%		21.5%	36.9%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	kla	Nlaw -		Nlaw -	Naw -		Na	N.A		NI=	Mess	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effet Green (s)		17.7			17.7		23.3	18.3		26.4	19.9	
Actuated g/C Ratio		0.33			0.33		0.44	0.34		0.50	0.37	



	۶	-	*	1	-	*	4	†	-	-	ļ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.52			0.81		0.13	0.37		0.12	0.30	
Control Delay		18.5			28.9		10.4	20.1		9.9	17.2	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		18.5			28.9		10.4	20.1		9.9	17.2	
LOS		В			С		В	С		Α	В	
Approach Delay		18.5			28.9			17.7			15.3	
Approach LOS		В			С			В			В	
Queue Length 50th (ft)		77			132		12	63		12	49	
Queue Length 95th (ft)		134			223		33	131		34	105	
Internal Link Dist (ft)		288			475			144			131	
Turn Bay Length (ft)							150			150		
Base Capacity (vph)		801			796		572	592		692	631	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.35			0.56		0.12	0.37		0.10	0.30	
Intersection Summary												

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 53.2

Natural Cycle: 60

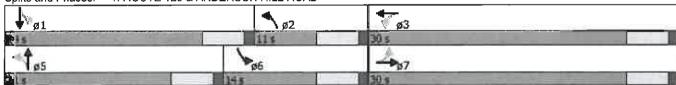
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.81 Intersection Signal Delay: 21.3 Intersection Capacity Utilization 62.9%

Intersection LOS: C ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: ROUTE 120 & ANDERSON HILL ROAD



5/8/2014 FREDERICK P. CLARK ASSOCIATES, INC. - MES

	→	7	1	←	1	-
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	<u> </u>		<u> </u>	<u> </u>	\\	
Volume (vph)	229	25	161	376	9	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	10	14	12	12
Grade (%)	0%		.0	0%	0%	
Storage Length (ft)	070	0	200	0,0	0	0
Storage Lanes		ŏ	1		1	0
Taper Length (ft)		J	25		25	v
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1,00	1.00	1.00	1.00	1.00	1.00
Frt	0.987				0.878	
Fit Protected	0.507		0.950		0.995	
Satd. Flow (prot)	2022	0	1652	1987	1627	0
Fit Permitted	2022	U	0.553	1901	0.995	U
	2022	0	961	1987	1627	Λ
Satd. Flow (perm)	2022		901	1987	1027	0 No
Right Turn on Red	-	Yes				No
Satd. Flow (RTOR)	7			20	20	
Link Speed (mph)	30			30	30	
Link Distance (ft)	183			253	903	
Travel Time (s)	4.2			5.8	20.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)	0.04	0.04	0.04	0.04	0.04	0.04
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	273	30	192	448	11	99
Shared Lane Traffic (%)						
Lane Group Flow (vph)	303	0	192	448	110	0
Turn Type	NA		pm+pt	NA	Prot	
Protected Phases	5		6	2	3	
Permitted Phases			2			
Detector Phase	5		6	2	3	
Switch Phase						
Minimum Initial (s)	20.0		5.0	20.0	5.0	
Minimum Split (s)	26.0		11.0	26.0	31.0	
Total Split (s)	37.0		19.0	56.0	34.0	
Total Split (%)	41.1%		21.1%	62.2%	37.8%	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max	None	
Act Effct Green (s)	50.9		69.9	71.1	10.5	
Actuated g/C Ratio	0.57		0.78	0.79	0.12	

	-	7	1	←	1	1
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
v/c Ratio	0.26		0.23	0.29	0.58	
Control Delay	12.0		3.7	3.3	49.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	12.0		3.7	3.3	49.2	
LOS	В		Α	Α	D	
Approach Delay	12.0			3.4	49.2	
Approach LOS	В			Α	D	
Queue Length 50th (ft)	86		18	45	60	
Queue Length 95th (ft)	140		37	81	99	
Internal Link Dist (ft)	103			173	823	
Turn Bay Length (ft)			200			
Base Capacity (vph)	1145		845	1569	506	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.26		0.23	0.29	0.22	
Intersection Summary						

intersection summar

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:WBTL and 5:EBT, Start of Yellow

Natural Cycle: 70

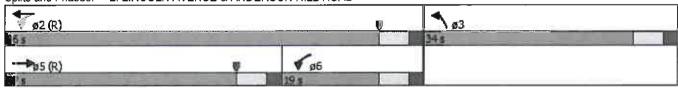
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.58 Intersection Signal Delay: 10.7 Intersection Capacity Utilization 46.2%

Intersection LOS: B
ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2: LINCOLN AVENUE & ANDERSON HILL ROAD



	*	→	•		\	1
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		4	↑		W	
Volume (vph)	6	238	350	3	2	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	14	14
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.999		0.919	
Flt Protected		0.999			0.980	
Satd. Flow (prot)	0	1799	1799	0	1789	0
FIt Permitted		0.999			0.980	
Satd. Flow (perm)	0	1799	1799	0	1789	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		104	279		228	
Travel Time (s)		2.4	6.3		5.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	7	267	393	3	2	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	274	396	0	5	0
Sign Control		Free	Free		Stop	
Intersection Summary						

Area Type:

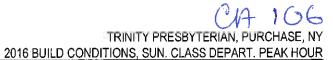
Other

Control Type: Unsignalized

Intersection Capacity Utilization 28.6%

Analysis Period (min) 15

ICU Level of Service A



	*	→	+	4	-	4			
Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations		र्स	4		ì t∤#				
Volume (veh/h)	6	238	350	3	2	3			
Sign Control		Free	Free		Stop				
Grade		0%	0%		0%				
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89			
Hourly flow rate (vph)	7	267	393	3	2	3			
Pedestrians									
Lane Width (ft)									
Walking Speed (ft/s)									
Percent Blockage									
Right turn flare (veh)									
Median type		None	None						
Median storage veh)									
Upstream signal (ft)		659							
pX, platoon unblocked					.=.				
vC, conflicting volume	397				676	395			
vC1, stage 1 conf vol									
vC2, stage 2 conf vol					070	005			
vCu, unblocked vol	397				676	395			
tC, single (s)	4.1				6.4	6.2			
tC, 2 stage (s)	2.2				٥٠	0.0			
tF (s)	2.2				3.5	3.3			
p0 queue free %	99				99	99			
cM capacity (veh/h)	1162				416	654			
Direction, Lane #	EB 1	WB 1	SB 1						
Volume Total	274	397	6						
Volume Left	7	0	2						
Volume Right	0	3	3						
cSH	1162	1700	533						
Volume to Capacity	0.01	0.23	0.01						
Queue Length 95th (ft)	0	0	1						
Control Delay (s)	0.3	0.0	11.8						
Lane LOS	A	0.0	B						
Approach Delay (s)	0.3	0.0	11.8						
Approach LOS			В						
Intersection Summary									
Average Delay			0.2						
Intersection Capacity Utilizati	ion		28.6%	IC	U Level o	f Service	P	١.	
Analysis Period (min)			15						

TRINITY PRESBYTERIAN, PURCHASE, NY

Lanes, Volumes, Timings 20: PEPSICO DR./SUNY PURCHASE DR. & ANDERSON HILL RD. 2016 BUILD CONDITIONS, SUN, CLASS DEPART, PEAK HOUR 燎 **EBL EBT EBR** WBL **WBT WBR** NBL **NBT** NBR SBL SBT SBR Lane Group ች <u></u> 7 ኘ ተተ 7 ٨ Lane Configurations ች ۲ ٦ ١, 7 Volume (vph) 148 123 41 15 167 23 24 5 43 0 346 Ideal Flow (vphpl) 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 12 Lane Width (ft) 11 10 12 12 12 11 10 10 12 13 12 0% 0% 0% 0% Grade (%) 0 0 0 250 125 230 150 150 Storage Length (ft) Storage Lanes 1 1 1 n 1 1 1 1 25 25 25 25 Taper Length (ft) Lane Util. Factor 1.00 0.95 1.00 1.00 0.95 0.95 1.00 1.00 1.00 1.00 0.95 0.95 Ped Bike Factor 0.850 0.982 0.850 0.850 0.850 Frt Flt Protected 0.950 0.950 0.950 0.950 1694 3471 3476 1711 1739 1770 1554 1504 1478 1770 0 1478 Satd. Flow (prot) Fit Permitted 0.507 0.577 0.754 0.656 3471 0 1039 1739 1478 1405 1554 1504 Satd. Flow (perm) 904 1478 1222 3476 Right Turn on Red Yes Yes Yes Yes Satd. Flow (RTOR) 109 21 109 692 692 30 30 Link Speed (mph) 30 30 262 300 Link Distance (ft) 294 299 6.0 6.8 Travel Time (s) 6.7 6.8 Confl. Peds. (#/hr) Confl. Bikes (#/hr) Peak Hour Factor 0.81 0.81 0.81 0.81 0.81 0.81 0.81 0.81 0.81 0.81 0.81 0.81 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% Growth Factor 2% 2% 2% 2% 2% 2% 2% 2% Heavy Vehicles (%) 3% 4% 2% 2% Bus Blockages (#/hr) 0 0 0 0 0 0 0 0 0 0 0 0 Parking (#/hr) Mid-Block Traffic (%) 0% 0% 0% 0% 152 51 19 206 28 30 6 9 53 0 427 Adj. Flow (vph) 183 Shared Lane Traffic (%) 50% 213 Lane Group Flow (vph) 183 152 51 19 234 O 30 6 9 53 214 Perm Turn Type pm+pt NΑ pm+pt NA Perm NA Perm Perm NA Perm 5 2 3 **Protected Phases** 6 7 1 2 3 3 7 7 Permitted Phases 6 6 2 7 7 7 6 6 5 3 3 3 **Detector Phase** 1 Switch Phase 30.0 5.0 30.0 5.0 5.0 5.0 5.0 5.0 Minimum Initial (s) 5.0 30.0 5.0 Minimum Split (s) 11.0 36.0 36.0 11.0 36.0 36.0 36.0 36.0 36.0 36.0 36.0 29.0 29.0 Total Split (s) 15.0 46.0 46.0 15.0 46.0 29.0 29.0 29.0 29.0 51.1% 32.2% 32.2% 32.2% 32.2% 32.2% 32.2% Total Split (%) 16.7% 51.1% 51.1% 16.7% 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 Yellow Time (s) 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 All-Red Time (s) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Lost Time Adjust (s) 0.0 0.0 0.0 0.06.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 Total Lost Time (s)

Lead

Yes

None

43.2

0.48

Lag

Yes

C-Min

39.6

0.44

Lag

Yes

39.6

0.44

C-Min

Lead

Yes

None

37.1

0.41

Lag

Yes

Max

 $\bar{3}\bar{3}.\bar{0}$

0.37

Max

33.0

0.37

Max

33.0

0.37

Max

33.0

0.37

C-Min

30.1

0.33

Lead/Lag

Recall Mode

Lead-Lag Optimize?

Act Effct Green (s)

Actuated g/C Ratio

Max

33.0

0.37

Max

33.0

0.37

20: PEPSICO DR./SUNY PURCHASE DR. & ANDERSON HILL RD. 2016 BUILD CONDITIONS, SUN. CLASS DEPART. PEAK HOUR

	•		7	•	+	4	1	†	*	1	↓	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.36	0.10	0.07	0.03	0.20		0.08	0.01	0.01	0.10	0.21	0.22
Control Delay	8.4	9.1	1.3	11.9	20.0		19.4	18.2	0.0	19.6	0.5	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.4	9.1	1.3	11.9	20.0		19.4	18.2	0.0	19.6	0.5	0.5
LOS	Α	Α	Α	В	В		В	В	Α	В	Α	Α
Approach Delay		7.7			19.4			15.4			2.6	
Approach LOS		Α			В			В			Α	
Queue Length 50th (ft)	30	8	0	5	44		11	2	0	20	0	0
Queue Length 95th (ft)	35	29	4	15	64		27	9	0	40	0	0
Internal Link Dist (ft)		214			219			182			220	
Turn Bay Length (ft)	250		125	230			150		150			
Base Capacity (vph)	512	1658	763	585	1556		380	637	610	515	1008	989
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.09	0.07	0.03	0.15		0.08	0.01	0.01	0.10	0.21	0.22

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 9 (10%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 85

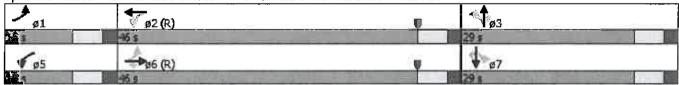
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.36 Intersection Signal Delay: 8.4 Intersection Capacity Utilization 58.4%

Intersection LOS: A ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 20: PEPSICO DR./SUNY PURCHASE DR. & ANDERSON HILL RD.



5/8/2014 Synchro 8 Report FREDERICK P. CLARK ASSOCIATES, INC. - MES Page 8

	→	7	1	-	4	1
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	4			4	N/F	
Volume (vph)	244	0	0	353	40	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	1863	0	0	1863	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1863	0	0	1863	1770	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	555			104	240	
Travel Time (s)	12.6			2.4	5.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.50	0.50	0.92	0.50	0.50
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	265	0	0	384	80	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	265	0	0	384	80	0
Sign Control	Free			Free	Stop	
Intersection Summary						

Area Type:

Other

Control Type: Unsignalized Intersection Capacity Utilization 28.6%

Analysis Period (min) 15

ICU Level of Service A

	\rightarrow	\rightarrow	•	←	1	~	
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	1>			€	N/F		
Volume (veh/h)	244	0	0	353	40	0	
Sign Control	Free			Free	Stop		
Grade	0%			0%	0%		
Peak Hour Factor	0.92	0.50	0.50	0.92	0.50	0.50	
Hourly flow rate (vph)	265	0	0	384	80	0	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)	Mana			Mana			
Median type	None			None			
Median storage veh)	555						
Upstream signal (ft) pX, platoon unblocked	555						
vC, conflicting volume			265		649	265	
vC1, stage 1 conf vol			200		043	200	
vC2, stage 2 conf vol							
vCu, unblocked vol			265		649	265	
tC, single (s)			4.1		6.4	6.2	
tC, 2 stage (s)			7.1		0.4	0.2	
tF (s)			2.2		3.5	3.3	
p0 queue free %			100		82	100	
cM capacity (veh/h)			1299		434	773	
Direction, Lane #	EB 1	WB 1	NB 1				
Volume Total	265	384	80				
Volume Left	0	0	80				
Volume Right	0	Ö	0				
cSH	1700	1299	434				
Volume to Capacity	0.16	0.00	0.18				
Queue Length 95th (ft)	0	0	17				
Control Delay (s)	0.0	0.0	15.1				
Lane LOS			С				
Approach Delay (s)	0.0	0.0	15.1				
Approach LOS			С				
Intersection Summary		_					
Average Delay			1.7				
Intersection Capacity Utilization	n		28.6%	ICI	U Level o	f Service	Α
Analysis Period (min)			15				

	-	*	1	←	1	1
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	ĵ.			4	N/F	
Volume (vph)	240	0	0	353	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt					0.865	
Fit Protected						
Satd. Flow (prot)	1863	0	0	1863	1611	0
Flt Permitted						
Satd. Flow (perm)	1863	0	0	1863	1611	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	279			1004	214	
Travel Time (s)	6.3			22.8	4.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.50	0.50	0.92	0.50	0.50
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	261	0	0	384	0	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	261	0	0	384	10	0
Sign Control	Free			Free	Stop	
Intersection Summary						

Area Type:

Other

Control Type: Unsignalized Intersection Capacity Utilization 28.6%

Analysis Period (min) 15

ICU Level of Service A

	-	7	•	+	1	*		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	₽.			सी	¥	_		
Volume (veh/h)	240	0	0	353	0	5		
Sign Control	Free			Free	Stop			
Grade	0%	0.50	0.50	0%	0%	0.50		
Peak Hour Factor	0.92	0.50	0.50	0.92	0.50	0.50		
Hourly flow rate (vph) Pedestrians	261	0	0	384	0	10		
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type	None			None				
Median storage veh)								
Upstream signal (ft)	938							
pX, platoon unblocked								
vC, conflicting volume			261		645	261		
vC1, stage 1 conf vol								
vC2, stage 2 conf vol			004		CAE	004		
vCu, unblocked vol			261 4.1		645 6.4	261 6.2		
tC, single (s) tC, 2 stage (s)			4.1		0.4	0.2		
tF (s)			2.2		3.5	3.3		
p0 queue free %			100		100	99		
cM capacity (veh/h)			1304		437	778		
Direction, Lane #	EB 1	WB 1	NB 1					
Volume Total	261	384	10					
Volume Left	0	0	0					
Volume Right	0	0	10					
cSH	1700	1304	778					
Volume to Capacity	0.15	0.00	0.01					
Queue Length 95th (ft)	0	0	1					
Control Delay (s)	0.0	0.0	9.7					
Lane LOS			A					
Approach Delay (s)	0.0	0.0	9.7					
Approach LOS			Α					
Intersection Summary								<u> </u>
Average Delay 0.1								
Intersection Capacity Utilization 28.6%			IC	U Level c	f Service	A		
Analysis Period (min) 15								



35 TECHNOLOGY DRIVE
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REPORT OF GEOTECHNICAL INVESTIGATION

PROPOSED BUILDING ADDITION 526 - 530 ANDERSON HILL ROAD BLOCK 643, LOTS 7, 44 & 49 HARRISON, WESTCHESTER COUNTY, NEW YORK

Prepared for:

TRINITY PRESBYTERIAN CHURCH 15 Elm Place Rye, New York 10580

Prepared by:

WHITESTONE ASSOCIATES, INC. 35 Technology Drive Warren, New Jersey 07059

Mudar Khantamr, E.I.T. Geotechnical Engineer

Laurence W. Keller, P.E.

Director, Geotechnical Services

Whitestone Project #GJ1412975.000 June 10, 2014



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June 10, 2014

via email

TRINITY PRESBYTERIAN CHURCH

15 Elm Place Rye, New York 10580

Attention:

Reverend A. Craig Chapman

Senior Associate Pastor

Regarding:

REPORT OF GEOTECHNICAL INVESTIGATION

PROPOSED BUILDING ADDITION 526 - 530 ANDERSON HILL ROAD BLOCK 643, LOTS 7, 44 & 49

HARRISON, WESTCHESTER COUNTY, NEW YORK

WHITESTONE PROJECT NO.: GJ1412975.000

Dear Reverend Chapman:

Whitestone Associates, Inc. is pleased to submit the attached *Report of Geotechnical Investigation* for the above-referenced project. The attached report presents the results of Whitestone's soils exploration efforts and presents recommendations for design of the proposed structural foundations, floor slabs, pavements and related earthwork associated with the proposed development.

FOUNDATIONS: Following overexcavation of unsuitable existing fill materials, if encountered, at or below proposed foundation bearing elevations, the results of the exploration indicate that the structures may be supported on conventional shallow foundations bearing on approved and improved underlying natural materials and/or properly placed structural fill following supplemental evaluation as described herein. Portions of the natural materials encountered within the top two feet to three feet consisted of loose silty, clayey sands that will require improvement prior to foundation support, if encountered at or below proposed foundation bearing elevations. Existing fill was encountered to a depth of up to 3.5 feet below the ground surface (fbgs) within the proposed building addition area during this exploration.

FLOOR SLABS AND PAVEMENTS: Contingent upon supplemental evaluation of existing fill materials as described herein, Whitestone anticipates that proposed floor slabs and pavements may be supported on improved and approved existing fill materials, improved and approved underlying natural materials, and/or controlled structural fill materials subject to supplemental evaluation and subgrade preparation as described herein with limited areas of overexcavation and replacement or recompaction anticipated due to the possible presence of unsuitable portions of existing fill materials including debris. The loose natural silty, clayey sands, if encountered, will require improvement prior to floor slab and pavement support.



Trinity Presbyterian Church Report of Geotechnical Investigation Proposed Building Addition 526-530 Anderson Hill Road Harrison, New York June 10, 2014 Page 2

SOIL REUSABILITY/MOISTURE SENSITIVE SOILS: Whitestone anticipates that the existing fill materials, following segregation of any objectionable debris, and underlying natural soils will be suitable for re-use as structural fill materials contingent upon stringent moisture control. Reuse of the on-site silty existing fill materials and upper portions of natural silty, clayey soils should anticipate a significant drying effort and immediate re-use may not be practical. Sufficient area should be maintained on site to allow moisture control operations. Earthwork should only be performed during warm, dry periods. Imported materials should be anticipated to expedite earthwork operations, especially if the construction schedule or the site area restricts moisture control operations.

GROUNDWATER CONTROL: Groundwater and estimated seasonal high groundwater elevations were encountered in the borings and test excavations at depths as shallow as 1.5 fbgs below the surface. Therefore, both temporary and permanent groundwater control should be anticipated during construction, including foundation and utility excavations.

Whitestone's geotechnical division appreciates the opportunity to be of service to Trinity Presbyterian Church. Please note that Whitestone has the capability to perform the additional geotechnical engineering services recommended herein. Please contact us at (908) 668-7777 with any questions regarding the enclosed report.

Laurence W. Keller, P.E. Director, Geotechnical Services

Sincerely,

WHITESTONE ASSOCIATES, INC.

Mudar Khantamr, E.I.T. Geotechnical Engineer

MK/pwd L:\Job Folders\2014\1412975GJ\Reports and Submittals\12975 ROGI.docx

Enclosures

Copy: Matthew N. Steinberg, AICP, Divney Tung Schwalbe, LLP

REPORT OF GEOTECHNICAL INVESTIGATION

PROPOSED BUILDING ADDITION

526-530 Anderson Hill Road Block 643, Lots 7, 44 & 49 Harrison, Westchester County, New York

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REPORT OF GEOTECHNICAL INVESTIGATION

PROPOSED BUILDING ADDITION

526-530 Anderson Hill Road Block 643, Lots 7, 44 & 49 Harrison, Westchester County, New York

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FIGURE 1

Test Location Plan

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APPENDIX A Records of Subsurface Exploration

APPENDIX B Laboratory Test Results

APPENDIX C Percolation Test Results

APPENDIX D Supplemental Information (USCS, Terms & Symbols)

SECTION 1.0 Summary of Findings

Whitestone Associates, Inc. (Whitestone) has performed an exploration and evaluation of the subsurface conditions on the site of the proposed building addition to be located at 526-530 Anderson Hill Road in the Town of Harrison, Westchester County, New York. The property is identified further as Block 643, Lots 7, 44 & 49 as shown on the *Tax Maps* of the Town of Harrison and compromises 6.49 acres. The site of the proposed construction is shown on the *Test Location Plan* included as Figure 1.

At the time of Whitestone's site investigation, the subject site consisted of a two- to three-story residential brick/masonry building with an outdoor patio, single-story wood-framed storage shed, below-ground swimming pool and associated utilities, pavements, wooded and landscaped areas. Based on visual observation of the exterior of the existing residential building, the building contains at least a partial basement/crawl space. The existing building and storage shed were observed to be in good structural condition. The existing pavements were observed to be in fair structural condition with areas of minor transverse cracking. Based on an undated *Site Layout Plan* provided by Divney Tung Schwalbe, LLP (DTS), the subject site is known to slope downward in the southeasterly direction with a high elevation of approximately 335.0 feet above mean sea level (msl) within the northwestern corner of the property and a low elevation of approximately 308.0 feet above msl in the southeastern corner of the property.

Based on the aforementioned *Site Layout Plan* provided by DTS and the March 6, 2014 *Request for Proposal* prepared by DTS, the proposed redevelopment will consist of the demolition of the existing wood-framed storage shed and swimming pool and construction of an approximately 19,200 square feet addition to the existing residential building that will be renovated into a church totaling approximately 26,000 square feet with new associated pavements, landscaped areas and utilities. The finished floor elevation of the proposed addition was not provided at the time of this report. However, based on proposed grading surrounding the proposed addition, approximately three feet of cut is anticipated in the southwestern corner of the proposed addition. Based on the aforementioned *Site Location Plan* and existing grades, the remaining majority of the site will be redeveloped at or near existing site elevations with maximum cuts and fills on the order of one foot to three feet. However, up to seven feet of cut is anticipated in the northeastern corner of the site and up to six feet of fill is anticipated in the southeastern corner of the site. The proposed redevelopment will also include three stormwater management (SWM) areas within the northeastern and eastern portions of the site. The bottom elevation of the proposed SWM areas is unknown at this time. No retaining walls are expected.

The subsurface exploration included performing a reconnaissance of the project site, drilling 15 soil test borings, excavating six test pits, performing four *in-situ* percolation tests, and collecting soil samples for

laboratory analyses. The data from this exploration was analyzed by Whitestone in light of the project information provided by DTS.

A summary of Whitestone's findings is presented below:

- Subsurface Conditions: The soil borings and test excavations were performed within existing grasscovered areas and encountered approximately two inches to eight inches of topsoil at the surface. Underlying the surface cover, existing fill materials were encountered within tests B-1, B-5 through B-7, B-9, B-10, B-13, B-14, SPP-3, SPP-4 and SPP-6 that generally consisted of silt with occasional amounts of roots or silty sand with occasional trace amounts of roots and debris and variable amounts of gravel. The debris encountered consisted of asphalt, concrete and metal. Where encountered, the existing fill materials extended to depths ranging from 1.5 fbgs and four fbgs. Beneath the surface cover and/or existing fill materials, the borings encountered natural glacial deposits generally composed of either silty sand (USCS: SM) with variable amounts of gravel and occasional trace amounts of roots or silty, clayey sand (USCS: SC-SM) with occasional trace amounts of roots. All of the borings, with the exception of B-2 and B-3, were terminated within the glacially deposited soils at depths ranging from 4.8 fbgs to 20.8 fbgs. Beneath the glacially deposited soils, boring B-2 encountered residual materials consisting of silty sand (USCS: SM) with gravel-sized weathered rock fragments. Boring B-2 was terminated at a depth of 18.3 fbgs within the residual materials. Beneath the glacially deposited soils, boring B-3 encountered weathered rock to a termination depth of 18.4 fbgs.
- Forundwater: Static groundwater was encountered within a portion of the soil borings performed at depths ranging from approximately three fbgs to 10 fbgs, corresponding to elevations ranging from 321.5 feet above msl to 309.0 feet above msl. Additionally, perched/trapped water was encountered within borings B-1 and B-7 at depths of two fbgs, corresponding to elevations of 322.5 feet above msl and 323.0 feet above msl; respectively. Groundwater was encountered within all of the proposed potential SWM areas, with the exception of SPP-6, at depths ranging from approximately 3.5 fbgs to 7.5 fbgs, corresponding to elevations ranging from 322.5 feet above msl to 308.0 feet above msl. Indications of seasonal high groundwater levels were observed at depths ranging from 1.5 fbgs to 7.5 fbgs, corresponding to elevations ranging from 322.5 feet above msl to 311.5 feet above msl. Groundwater conditions likely will fluctuate seasonally and following periods of precipitation.

Recommendations developed upon consideration of these results are summarized below and presented in greater detail in the following report.

Foundations: Following overexcavation of unsuitable existing fill materials, if encountered, at or below proposed foundation bearing elevations, the results of the exploration indicate that the structures may be supported on conventional shallow foundations bearing on approved and improved underlying natural materials and/or properly placed structural fill following supplemental evaluation as described herein. Portions of the natural materials encountered within the top two feet to three feet consisted of loose silty, clayey sands which will require improvement prior to foundation support, if encountered at or below proposed foundation bearing elevations. Foundations bearing within approved and improved portions of natural materials and/or properly placed controlled structural fill

materials may be designed using a maximum allowable net bearing pressure of 3,000 pounds per square foot (psf). Due to anticipated disturbance of upper portions of the subgrade soils during footing excavations, all footing bottoms should be improved by in-trench compaction in the presence of the geotechnical engineer. Localized areas may require overexcavation and replacement of approved on-site soils in controlled lifts.

- Floor Slabs and Pavements: Contingent upon supplemental evaluation of existing fill materials as described herein, Whitestone anticipates that proposed floor slabs and pavements may be supported on improved and approved existing fill materials, improved and approved underlying natural materials, and/or controlled structural fill materials subject to supplemental evaluation and subgrade preparation as described herein with limited areas of overexcavation and replacement or recompaction anticipated due to the possible presence of unsuitable portions of existing fill materials including debris. The loose natural silty, clayey sands, if encountered, will require improvement prior to floor slab and pavement support. Due to the presence of existing fill materials including debris and loose natural materials, areas of overexcavation, subgrade stabilization and recompaction should be anticipated within proposed floor slab and pavement areas. Localized areas may require overexcavation and recompaction of on-site soils in controlled lifts. Any areas that become softened or disturbed as a result of wetting and/or repeated exposure to construction traffic should be removed and replaced with compacted structural fill.
- Soil Reusability/Moisture Sensitive Soils: Whitestone anticipates that a majority of the existing fill materials and underlying natural materials will be reusable as structural fill and/or backfill below proposed foundations, floor slabs, and pavements provided that they are free of deleterious materials and if moisture contents are controlled within two percent of the optimum moisture content. Reuse of the existing fill materials will be contingent on careful inspection in the field by the owner's geotechnical engineer by visual observation and/or test pit excavations during construction as recommended herein. Laboratory tests indicate that the on-site upper fine-grained silty and clayey soils are highly moisture sensitive and re-use is anticipated to require a significant drying effort. These soils will require moisture conditioning, including stockpiling, aerating, and drying to achieve proper compaction. Immediate reuse of these materials should not be anticipated. Imported materials may be required to expedite earthwork operations, especially if the construction schedule or the site area restricts moisture control operations, such as air drying the soil. Materials that become exceedingly wet will require discing and aerating. Due to the shallow groundwater and estimated seasonal high groundwater, drying soil prior to re-use should be expected. The stripped asphaltic concrete payement or topsoil should not be used as general structural fill or backfill. Construction schedules and budgets should account for wet soils and soil exchange with imported soils to expedite schedules.
- Groundwater Control: Assuming proposed development is near or at existing grades and using estimated seasonal high groundwater levels recorded and observed during this investigation, static and/or trapped/perched groundwater conditions are anticipated within or near proposed subgrade elevations of foundations and in utility excavations. Therefore, both construction phase and permanent dewatering of groundwater may be necessary for the proposed development as described herein.

► Stormwater Management Area Evaluation: A total of four in-situ percolation tests were performed within the proposed SWM basin areas in general accordance with guidelines presented in the New York State Stormwater Management Design Manual – Appendix D and Westchester County BMP Manual. The results of the in-situ percolation testing are presented in greater detail in Section 5.12.

More detailed design criteria and construction recommendations for proposed foundations, slabs, pavements, and earthwork are discussed in the following report.

SECTION 2.0

Introduction

2.1 AUTHORIZATION

Reverend A. Craig Chapman with Trinity Presbyterian Church (Trinity) issued authorization to Whitestone Associates, Inc. (Whitestone) to perform the geotechnical investigation at this site relevant to the proposed site redevelopment. The geotechnical investigation and stormwater management area evaluation was performed in general accordance with Whitestone's March 11, 2014 proposal to Trinity.

2.2 PURPOSE

The purpose of this subsurface exploration and analysis was to:

- ascertain the various soil profile components at test locations;
- estimate the engineering characteristics of the proposed foundation bearing and subgrade materials;
- provide geotechnical criteria for use by the design engineers in preparing the foundation, floor slab,
 SWM, and pavement designs;
- provide recommendations for required earthwork and subgrade preparation; and
- record groundwater and/or bedrock levels (where encountered), including estimated seasonal high groundwater levels, at the time of the investigation and discuss the potential impact on the proposed construction.

2.3 SCOPE

The scope of the exploration and analysis included the subsurface exploration, field testing and sampling, laboratory analyses, and a geotechnical engineering analysis and evaluation of the subsurface materials. This *Report of Geotechnical Investigation* is limited to addressing the site conditions as they relate to the physical support of the proposed construction. Any references to suspicious odors, materials, or conditions are provided strictly for the client's information.

2.3.1 Field Exploration

The field exploration of the project site was conducted by means of 15 soil test borings (identified as B-1 through B-15) performed with a track-mounted drill rig using hollow stem augers and split-spoon sampling and excavating six profile pits (identified as SPP-1 through SPP-6) performed with a track

excavator. Borings B-1 through B-7 were performed within or near the proposed building addition and were terminated at depths ranging from approximately 18.3 fbgs to 20.8 fbgs. Borings B-8 through B-15 were performed within the proposed pavement areas and were terminated at depths ranging from approximately 4.8 fbgs to six fbgs. Soil profile pits SPP-1 through SPP-6 were performed within the proposed potential SWM areas and were terminated at a depth of eight fbgs. Soil borings and test excavations were backfilled with excavated soils generated from the investigation. The locations of the subsurface tests are shown on the accompanying *Test Location Plan* included as Figure 1.

The subsurface tests were conducted in the presence of Whitestone personnel who performed field tests, recorded visual classifications, and collected samples of the various strata encountered. The test locations were located in the field using normal taping procedures and estimated right angles. These locations are presumed to be accurate within a few feet.

Soil borings and Standard Penetration Tests (SPTs) were conducted in general accordance with American Society for Testing Materials (ASTM) designation D 1586. The Standard Penetration Resistance value (N) can be used as an indicator of the consistency of fine-grained soils and the relative density of coarse-grained soils. The N-value for various soil types can be correlated with the engineering behavior of earthworks and foundations.

Groundwater level observations were recorded during and immediately following the completion of the testing operations within the soil borings and test excavations. Seasonal variations, temperature effects, and recent rainfall conditions may influence the levels of the groundwater, and the observed levels will depend on the permeability of the soils. Groundwater elevations derived from sources other than seasonally observed groundwater monitoring wells may not be representative of true groundwater level.

2.3.2 Laboratory Testing Program

In addition to the field investigation, a laboratory testing program was conducted to determine additional, pertinent engineering characteristics of representative samples of on-site soils. The laboratory testing program was performed in general accordance with applicable ASTM standard test methods and included physical/textural testing of representative samples of various strata.

The results of the laboratory testing program are presented in this section in a general manner and qualitatively interpreted. The results are incorporated into the findings and recommendations discussed throughout this report. Quantitative test results are provided in Appendix B.

Physical and Textural Analysis: Representative samples of selected strata encountered were subjected to a laboratory testing program that included Atterberg limits determination (ASTM D-4318), moisture content determinations (ASTM D-2216) and washed gradation analyses (ASTM D-422) in order to

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perform supplementary engineering soil classifications in general accordance with ASTM D-2487. The soil strata tested were classified by the Unified Soil Classification System (USCS) and results of the laboratory testing are summarized in the following table.

Source of Sample	Sample Number	Depth (fbgs)	Natural Moisture (%)	Liquid Limit (%)	Plastic Index (%)	Passing No. 200 Sieve (%)	USCS Classification
B-1	S-3	4.0 - 6.0	7.3	18	3	35.1	SM
B-3/B-4	S-1/S-1	0.0 - 2.0	25.3	24	4	45.5	SC-SM
B-6	S-3	5.0 - 7.0	14.5	21	4	34.5	SC-SM
B-7	S-3	5.0 - 7.0	11.7	NP	NP	31.2	SM

Notes: NP = Non-Plastic

The engineering classifications are useful when considered in conjunction with the additional site data to estimate properties of the soil types encountered and to predict the soil's behavior under construction and service loads. Laboratory test results are provided in Appendix B.

SECTION 3.0

Site Description

3.1 LOCATION AND DESCRIPTION

The subject property is located at 526-530 Anderson Hill Road in the Town of Harrison, Westchester County, New York. The property is identified further as Block 643, Lots 7, 44 & 49 as shown on the *Tax Maps* of the Town of Harrison and compromises 6.49 acres. The site is bound to the north Anderson Hill Road, to the west by a residential property, to the east by a residential property and to the south by a baseball field associated with an elementary school. The site of the proposed construction is shown on the *Test Location Plan* included as Figure 1.

3.2 EXISTING CONDITIONS

Surface Cover/Development: At the time of Whitestone's site investigation, the subject site consisted of a two- to three-story residential brick/masonry building with an outdoor patio, single-story wood-framed storage shed, below-ground swimming pool and associated utilities, pavements, wooded and landscaped areas. Based on visual observation of the exterior of the existing residential building, the building contains at least a partial basement/crawl space. The existing building and storage shed were observed to be in good structural condition. The existing pavements were observed to be in fair structural condition with areas of minor transverse cracking.

Topography: Based on the aforementioned *Site Layout Plan* provided by DTS, the subject site is known to slope downward in the southeasterly direction with a high elevation of approximately 335.0 feet above msl within the northwestern corner of the property and a low elevation of approximately 308.0 feet above msl in the southeastern corner of the property.

Utilities: At the time of Whitestone's subsurface field investigation, the subject site was serviced by public and private utilities including underground water and sanitary sewer lines, as well as overhead telephone and electric lines. Other utilities were not observed at the subject site by Whitestone but may be present. The utility information contained in this report is presented for general discussion only and is not intended for construction purposes.

Site Drainage: Surface runoff is anticipated to follow existing site contours and flow in a southeasterly direction where it likely discharges onto adjacent properties.

3.3 SITE GEOLOGY

The area of the subject site is situated within the Manhattan Prong of the New England Uplands Physiographic Province of the Northeastern United States. The site reportedly is underlain by the Middle Ordovician to Lower Cambrian-aged Hartland Formation. This formation generally consists of schist, gneissic granite, and amphibolite. Overburden material include glacial deposits associated with the Wisconsinan glacial cycle which reached its most southerly advance thousands of years ago and manmade fill materials.

3.4 PROPOSED CONSTRUCTION

Based on an the aforementioned *Site Layout Plan* and *Request for Proposal*, the proposed redevelopment will consist of the demolition of the existing wood-framed storage shed and swimming pool and construction of an approximately 19,200 square feet addition to the existing residential building which will be renovated as a church totaling approximately 26,000 square feet with new associated pavements, landscaped areas and utilities. The finished floor elevation of the proposed addition was not provided at the time of this report. However, based on proposed grading surrounding the proposed addition, approximately three feet of cut is anticipated in the southwestern corner of the proposed addition. Based on the aforementioned *Site Location Plan* and existing grades, the remaining majority of the site will be redeveloped at or near existing site elevations with maximum cuts and fills on the order of one foot to three feet. However, up to seven feet of cut is anticipated in the northeastern corner of the site and up to six feet of fill is anticipated in the southeastern corner of the site. The proposed redevelopment will also include three SWM areas within the northeastern and eastern portions of the site. The bottom elevation of the proposed SWM areas is unknown at this time. No retaining walls are planned at this time. The anticipated maximum design loads are expected to be less than the following:

- building column loads 150 kips;
- ▶ building wall loads 3.0 kips/linear foot;
- ► floor slabs 100 pounds per square foot; and
- ▶ pavement load 25,000 equivalent single axle loads.

The above-referenced structural loads were assumed based upon Whitestone's previous experience with similar facilities. The scope of Whitestone's investigation and the professional advice contained in this report were generated based on the project details noted herein. Any revisions or additions to the design details enumerated in this report should be brought to the attention of Whitestone for additional evaluation as warranted.

SECTION 4.0 Subsurface Conditions

Details of the subsurface materials encountered are presented on the *Records of Subsurface Exploration* presented in Appendix A of this report. The subsurface soil conditions encountered in the soil borings consisted of the following generalized strata in order of increasing depth.

4.1 SUBSURFACE SOIL CONDITIONS

Surface Cover: The soil borings and test excavations were performed within existing grass-covered areas and encountered approximately two inches to eight inches of topsoil at the surface.

Existing Fill Materials: Underlying the surface cover, existing fill materials were encountered within tests B-1, B-5 through B-7, B-9, B-10, B-13, B-14, SPP-3, SPP-4 and SPP-6 that generally consisted of silt with occasional amounts of roots or silty sand with occasional trace amounts of roots and debris and variable amounts of gravel. The debris encountered consisted of asphalt, concrete and metal. Where encountered, the existing fill materials extended to depths ranging from 1.5 fbgs and four fbgs. SPT N-values encountered within this stratum ranged between two blows per foot (bpf) and 30 bpf, and averaged approximately 9 bpf.

Glacial Deposits: Beneath the surface cover and/or existing fill materials, the borings encountered natural glacial deposits generally composed of either silty sand (USCS: SM) with variable amounts of gravel and occasional trace amounts of roots or silty, clayey sand (USCS: SC-SM) with occasional trace amounts of roots. All of the borings, with the exception of B-2 and B-3, were terminated within the glacially deposited soils at depths ranging from 4.8 fbgs to 20.8 fbgs. SPT N-values within this stratum ranged between two bpf and refusal (refusal defined as greater than 50 blows per six inches of penetration), generally indicating very loose to very dense relative density and averaging approximately 40 bpf.

Residual Soils: Beneath the glacially deposited soils, boring B-2 encountered residual materials consisting of silty sand (USCS: SM) with gravel-sized weathered rock fragments. Boring B-2 was terminated at a depth of 18.3 fbgs within the residual materials. The SPT N-value within this stratum yielded split-spoon refusal, generally indicating very dense relative density.

Weathered Rock: Beneath the glacially deposited soils, boring B-3 encountered weathered rock to a termination depth of 18.4 fbgs. The SPT N-value within the weathered rock stratum yielded split-spoon refusal, generally indicating very dense relative density.

4.2 GROUNDWATER

Static groundwater was encountered within a portion of the soil borings performed at depths ranging from approximately three fbgs to 10 fbgs, corresponding to elevations ranging from 321.5 feet above msl to 309.0 feet above msl. Additionally, perched/trapped water was encountered within borings B-1 and B-7 at depths of two fbgs, corresponding to elevations of 322.5 feet above msl and 323.0 feet above msl; respectively. Groundwater was encountered within all of the proposed potential SWM areas, with the exception of SPP-6, at depths ranging from approximately 3.5 fbgs to 7.5 fbgs, corresponding to elevations ranging from 322.5 feet above msl to 308.0 feet above msl.

Estimated Seasonal High Groundwater: Indications of seasonal high groundwater levels, such as soil mottles, were encountered within the proposed SWM areas, with the exception of SPP-6, at depths ranging from 1.5 fbgs to 7.5 fbgs, corresponding to elevations ranging from 322.5 feet above msl to 311.5 feet above msl.

SECTION 5.0

Conclusions and Recommendations

5.1 GENERAL

Following overexcavation of unsuitable existing fill materials, if encountered, at or below proposed foundation bearing elevations, the results of the exploration indicate that the structures may be supported on conventional shallow foundations bearing on approved and improved underlying natural materials and/or properly placed structural fill following supplemental evaluation as described herein. Portions of the natural materials encountered within the top two feet to three feet consisted of loose silty, clayey sands which will require improvement prior to foundation support, if encountered at or below proposed foundation bearing elevations. Subgrade evaluation by supplemental test pits and proofrolling, careful inspection by the owner's geotechnical engineer, and overexcavation and replacement of excessively unsuitable materials will be required in structural areas.

Contingent upon supplemental evaluation of existing fill materials as described herein, Whitestone anticipates that proposed floor slabs and pavements may be supported on improved and approved existing fill materials, improved and approved underlying natural materials, and/or controlled structural fill materials subject to supplemental evaluation and subgrade preparation as described herein with limited areas of overexcavation and replacement or recompaction anticipated due to the possible presence of unsuitable portions of existing fill materials including debris. The loose natural silty, clayey sands, if encountered, will require improvement prior to floor slab and pavement support. Overexcavation of existing fill materials and recompaction and/or mechanical subgrade stabilization may be anticipated in pavement areas, due to the debris encountered within the existing fill materials and relatively low N-values encountered within the upper portions of the natural soils, and some increased risk of future maintenance should be anticipated in pavement areas where unimproved existing fill and natural soils remain.

Static and/or trapped/perched groundwater conditions are anticipated within or near proposed subgrade elevations of foundations and in utility excavations. Therefore, both construction phase and permanent dewatering of groundwater may be necessary for the proposed development as described herein.

5.2 SITE PREPARATION AND EARTHWORK

Surface Cover Stripping and Demolition: Prior to stripping operations, all utilities should be identified and secured. The existing structures and pavements to be demolished and stripped should be removed from within and at least 10 feet beyond the limits of the proposed building addition and pavement areas. Existing structural elements, such as foundation walls, or any concrete foundations, walls or slabs

encountered during excavations, should be removed entirely from below proposed foundations and their zones of influence (as determined by lines extending at least one foot laterally beyond footing edges for each vertical foot of depth) and excavated to at least two feet below proposed construction subgrade levels elsewhere. Foundations and slabs may remain in place below these depths below proposed ground-supported slabs, pavements and landscaped areas, provided they do not interfere with future construction; however, any existing slab to remain should be thoroughly broken such that maximum particle size is 12 inches to allow vertical drainage of water. The demolition contractor should be required to perform all earthwork in accordance with the recommendations in this report including backfilling any excavation, etc. with structural fill. All fill or backfill placed in structural areas during any demolition operations should be placed as structural fill in maximum nine inch loose lifts and compacted to 95 percent of the Standard Proctor maximum dry density within two percentage points of the optimum moisture content under the supervision of the owner's geotechnical engineer.

Inspection/Overexcavation Criteria: The results of the exploration indicate that the proposed structures may be supported on conventional shallow foundations following the overexcavation and either recompaction of suitable portions of existing fill or replacement with imported structural fill. Unsuitable existing fill should be overexcavated beneath foundation influence zones for the proposed building addition, but may remain beneath floor slabs and pavements subject to supplemental evaluation by the owner's geotechnical engineer as recommended herein. Any overexcavation to be restored with structural fill will need to extend at least one foot laterally beyond footing edges for each vertical foot of overexcavation. The bottom of overexcavations should be compacted to densify locally disturbed materials. Lateral overexcavation may be eliminated if grade is restored with lean concrete.

Surface Preparation/Proofrolling: Prior to placing any fill or subbase materials to raise or restore grades to the desired subgrade elevations, the existing exposed soils should be compacted to a firm surface with several passes in two perpendicular directions of a minimum 10-ton roller. The roller should be operated in the static mode or a kneading "sheepsfoot" roller should be used if silt and/or clay soils are encountered at subgrade elevations. The surface then should be proofrolled with a loaded tandem axle truck in the presence of the geotechnical engineer to help identify soft or loose pockets which may require removal and replacement or further investigation. Proofrolling should be performed after a suitable period of dry weather to avoid degrading an otherwise stable subgrade. Any fill or backfill should be placed and compacted in accordance with Section 5.3.

Excavation Difficulties: Cobbles and boulders encountered at the site will present excavation difficulties for deeper foundations and utilities. Excavator difficulties will be affected by the size of the excavation depth and equipment used. Heavy excavating equipment with ripping tools will probably be effective in removing cobbles/boulders during site grading. The speed and ease of excavation will depend on the type of grading equipment, the skill of the equipment operators, and the size of the excavation. Planned

excavation depths beyond refusal depths and in confined excavations, such as for foundation embedment or utility trenches, may require ripping tools, extreme service buckets, or pneumatic hammers.

Weather Performance Criteria: Because portions of the site soils are highly moisture sensitive and may soften when exposed to water, every effort must be made to maintain drainage of surface water runoff away from construction areas by grading and limiting the exposure of excavations and prepared subgrades to rainfall. Accordingly, excavation and fill placement procedures should be performed during favorable weather conditions. Overexcavation of saturated soils and replacement with controlled structural fill per Section 5.3 of this report may be required prior to resuming work on disturbed subgrade soils.

Subgrade Protection and Inspection: Portions of the site soils are composed of fine-grained soils that are highly moisture sensitive and groundwater was encountered at marginal depths below the surface. Every effort should be made to minimize disturbance of the on-site materials by construction traffic and surface runoff. The on-site soils will deteriorate when subjected to repeated wetting and construction traffic and likely will require extensive drying or overexcavation and replacement. Construction schedules and budgets should account for contingencies, such as importing materials to raise grades or restore overexcavations when construction must occur following wet weather or on an expedited basis. However, if properly protected and maintained during warm, dry weather as recommended herein, the site soils will provide adequate support for the proposed construction. The site contractors should employ necessary means and methods to protect the subgrade including, but not limited to the following:

- leaving the existing pavement in place as long as practical to protect the subgrade from freeze-thaw cycles and exposure to inclement weather;
- ▶ sealing exposed subgrade soils on a daily basis with a smooth drum roller operated in static mode;
- regrading the site as needed to maintain positive drainage away from construction areas;
- removing wet surficial soils immediately; and
- ▶ limiting exposure to construction traffic especially following inclement weather and subgrade thawing.

5.3 STRUCTURAL FILL AND BACKFILL

Imported Fill Material: Any imported material placed as structural fill or backfill to raise elevations or restore design grades should consist of clean, relatively well graded sand or gravel with a maximum particle size of three inches and five percent to 20 percent of material finer than a #200 sieve. Alternatively, inorganic soil types including silty and clayey sands and gravels with higher percentage of

fine material and silts and clays with a liquid limit less than 40 and a plasticity index less than 20 may be considered subject to the owner's approval, provided that the required moisture content and compaction controls are met. The material should be free of clay lumps, organics and deleterious material.

On-site Material Based on the conditions disclosed by the soil borings and test pits, Whitestone anticipates that a majority of the existing fill materials and the natural soils will be suitable for reuse as structural fill and/or backfill provided objectionable debris are removed and moisture contents are controlled within two percent of the optimum during favorable weather conditions. Reuse of the existing fill will be contingent on careful inspection in the field by the owner's geotechnical engineer by visual observation and/or test pit excavations either prior to or during construction in accordance with Section 5.11 of this report. Laboratory results indicate that the existing site silty and clayey soils (USCS: ML and SC-SM) are highly moisture sensitive. The reuse of these fine-grained existing fill and natural soils and/or granular existing fill materials with a high percentage of plastic fines typically is possible only during ideal weather conditions. Reuse of these soils may require mixing with a granular material, extensive moisture conditioning, and/or drying to facilitate their reuse, workability, and compaction in fill areas. The on-site soils will become increasingly difficult to reuse and compact if they become wetted beyond the optimum moisture content. Immediate re-use of on-site soil should not be anticipated.

Materials that become exceedingly wet likely will require discing and aerating which may not be practical during wet seasons. Due to the shallow groundwater drying soil prior to re-use should be expected. Alternatively, imported fill materials may be used to attain the desired grades and expedite earthwork operations. The stripped asphaltic concrete pavement and topsoil should not be used as fill or backfill.

Cobbles and boulders, or similarly sized materials greater than three inches in diameter will need to be separated from on-site soils to be placed as structural fill or backfill. Cobbles between three inches to 12 inches may be crushed or individually placed in structural fill or backfill layers deeper than two feet below proposed foundation and pavement subgraded levels. Care must be taken to individually seat any large particles and to compact soil around large particles with hand operated equipment to minimize risk of void formation. Boulders greater than 12 inches in diameter need to be crushed prior to replacement as structural fill materials. Materials greater than three inches in size should be placed a minimum of three feet from utilities. Alternatively, imported fill materials may be used to attain the desired grades and expedite earthwork operations during wet weather periods. Any stripped surface cover materials, such a concrete, should not be used as general fill or backfill.

Demolition Material: Demolition material, free of environmental concerns, may be used as fill material provided the material is properly segregated and processed as recommended herein. Concrete masonry materials, if encountered, should be crushed to a well graded blend with a maximum size of three inches in diameter. The asphaltic materials and deleterious building materials, if encountered, such as wood, insulation, metal shingles, etc. should not be used as general fill material. Milled or recycled asphalt

pavement (RAP) may be re-used as granular base for pavements provided that the RAP particle size meets New York State Department of Transportation (NYSDOT) standard specifications for granular base and no more than 50 percent of the pavement granular base contains RAP.

Submerged Fill: If necessary, up to two feet of an open-graded, crushed, three-quarter inch stone may be placed in the wet to provide a working mat, expedite dewatering efforts and enable subsequent placement of structural fill or backfill. Prior to placing submerged fill materials, free water and disturbed materials should be removed to the extent recommended by the geotechnical engineer. A fines barrier geotextile, such as Mirafi 140N or equivalent, should be placed at the base and sides of the overexcavation to separate the stone from underlying and adjacent soils. The fabric also should be placed on top of the stone prior to subsequent fill placement if fill soils with a substantial amount of fines are to be used to restore grade.

Compaction and Placement Requirements: All fill and backfill should be placed in maximum nine-inch loose lifts and compacted to 95 percent of the maximum dry density within two percent of the optimum moisture content as determined by ASTM D 1557 (Modified Proctor) unless otherwise recommended in subsequent sections of this report. Whitestone recommends using a vibratory drum roller to compact the on-site soils or a small hand-held vibratory compactor within excavations.

Structural Fill Testing: A sample of the imported fill material and on-site materials to be re-used should be submitted to the geotechnical engineer for analysis and approval prior to use. The placement of all fill and backfill should be monitored by a qualified engineering technician to ensure that the specified material and lift thicknesses are properly installed. A sufficient number of in-place density tests should be performed on each lift to ensure that the specified compaction is achieved throughout the height of the fill or backfill.

5.4 GROUNDWATER CONTROL

Static groundwater was encountered within a portion of the soil borings performed at depths ranging from approximately three fbgs to 10 fbgs, corresponding to elevations ranging from 321.5 feet above msl to 309.0 feet above msl. Additionally, perched/trapped water was encountered within borings B-1 and B-7 at depths of two fbgs, corresponding to elevations of 322.5 feet above msl and 323.0 feet above msl; respectively. Based on the surrounding proposed grading of the building addition, both construction phase and permanent dewatering of groundwater may be necessary for the proposed development as described below.

Temporary Dewatering: Dewatering of deeper excavations can be expected to require limited overexcavation in order to stabilize disturbed subgrades, installing multiple sump pumps or well points, and backfilling with submerged fill per Section 5.3. The contractor should be required to provide the

specific means and methods to maintain a dry excavation and lower groundwater at least two feet below the proposed excavation bottom based on groundwater levels at the time of construction. Monitoring of adjacent structures should be conducted due to dewatering operations that may induce in settlement while lowering the water table.

Typical methods applied for such conditions are discussed herein to serve as a guide during preliminary planning. Excavations extending less than approximately two feet below groundwater in a confined area typically may be controlled by providing a sufficient number of sump pumps placed in sump pits slightly beyond and lower than the excavations. Phased trench excavations with water tight trench boxes for narrow utility excavations often can be dewatered by placing such sump pits slightly outside of the immediate work area. A more extensive well point system would be needed if the contractor elects to open the entire length of an excavation below the groundwater for an extended period of time.

Because the subsurface materials will soften when exposed to water, every effort must be made to maintain drainage of surface water runoff away from construction areas by grading and limiting the exposure of excavations to rainfall. Overexcavation of saturated soils and replacement with controlled structural fill per Section 5.3 of this report may be required prior to resuming work on disturbed subgrade soils.

Subgrade and Perimeter Drains/Sump Pumps: Permanent drains within the proposed building addition for the foundation perimeter should be incorporated into the overall site drainage system to intercept groundwater seepage. The highest invert elevation of the perimeter drain should be below the bottom of the lowest grade.

Perimeter drains typically consist of top perforated polyvinyl chloride (PVC) piping within a 12-inch by 12-inch, clean three-quarter inch crushed stone layer surrounded by a fines filtration fabric. Perimeter drains and underdrains should be designed to pitch towards and discharge into the stormwater drainage system.

The pipes should have a minimum slope of 0.5 percent. If sufficient fall is available, gravity flow is preferable; otherwise, the water should be collected in a sump and pumped. Clean-out ports should be provided to permit periodic flushing of the system.

5.5 FOUNDATIONS

Shallow Foundation Design Criteria: Following overexcavation of unsuitable existing fill materials, if encountered, at or below proposed foundation bearing elevations, the results of the exploration indicate that the structures may be supported on conventional spread and continuous wall footings bearing on approved and improved underlying natural materials and/or properly placed structural fill provided these

materials are properly evaluated, placed and compacted in accordance with Sections 5.2, 5.3, and 5.11 of this report. Portions of the natural materials encountered within the top two feet to three feet consisted of loose silty, clayey sands which will require improvement prior to foundation support, if encountered at or below proposed foundation bearing elevations. Foundations bearing within these materials may be designed to impart a maximum allowable net bearing pressure of 3,000 psf.

Based on the conditions encountered within the soil borings performed as part of this investigation, proposed development at or near existing grades and the minimum required frost embedment depth of 42 inches, overexcavation of unsuitable existing fill materials or improvement of loose, natural soils below proposed exterior foundation influence zones is not anticipated to be required. However, if site grades are raised, overexcavation of existing fill materials and improvement of loose, natural soils should be anticipated. Reuse of the existing fill materials for foundation support will be contingent upon supplemental evaluation, as described in Section 5.11. All footing bottoms should be improved by intrench compaction in the presence of the geotechnical engineer. Regardless of loading conditions, proposed foundations should be sized no less than minimum dimensions of 24 inches for continuous wall footings and 36 inches for isolated column footings.

Foundation Inspection: Whitestone recommends that the suitability of the bearing soils along and below the footing bottoms be verified by a geotechnical engineer prior to placing concrete for the footings. Where areas of unsuitable materials, such as existing fill materials or loose, natural soils, are encountered in footing excavations, overexcavation and recompaction or replacement will be necessary to provide a suitable footing subgrade in accordance with Section 5.2.

Settlement: Whitestone estimates post construction settlements of proposed building foundations to be less than one inch if the recommendations outlined in this report are properly implemented. Differential settlement of building foundations should be less than one-half inch.

Frost Coverage/Adjacent Foundations: Footings subject to frost action should be placed at least 42 inches below adjacent exterior grades or the depth required by local building codes to provide protection from frost penetration. Interior footings not subject to frost action may be placed at a minimum depth of 18 inches below the slab subgrade. Foundations in areas adjacent to the existing adjacent neighboring building will require special consideration. New footings should be bear at the same elevation as the adjacent foundations. Care should be exercised during construction to avoid undermining the existing foundations.

5.6 FLOOR SLAB

Contingent upon supplemental evaluation of existing fill materials, Whitestone preliminarily anticipates that improved and approved existing fill materials, improved and approved underlying natural soils,

and/or controlled structural fill materials will be suitable for support of the proposed floor slabs provided these materials are properly evaluated, placed, compacted and proofrolled in accordance with Sections 5.2, 5.3, and 5.11 of this report. The loose natural silty, clayey sands, if encountered, will require improvement prior to floor slab support. The suitability of existing fill materials for floor slab support will be contingent upon careful inspection and evaluation during construction phase. Localized areas of overexcavation may be anticipated due to the variability that exists within the existing fill materials and/or if the subgrades are exposed to precipitation. Any areas that become softened or disturbed as a result of wetting and/or repeated exposure to construction traffic should be removed and replaced with compacted structural backfill. The properly prepared on-site soils are expected to yield a minimum subgrade modulus (k) of 150 psi/in.

A minimum four inch layer of stone should be installed below the floor slabs to provide a capillary break. An impervious membrane also should be provided as a moisture vapor barrier beneath all floor slabs. Post construction settlements of floor slabs installed in accordance with the recommendations outlined in this report are estimated to be on the order of one quarter inch.

5.7 PAVEMENT DESIGN CRITERIA

General: Following surficial compaction and proofrolling to densify upper loose zones and supplemental evaluation of existing fill materials as described in this report, Whitestone anticipates that improved and approved existing fill materials, improved and approved underlying natural glacially deposited soils, and/or compacted structural fill and/or backfill placed to raise or restore design elevations are expected to be suitable for support of the proposed pavements provided these materials are properly evaluated, compacted, and proofrolled in accordance with Sections 5.2, 5.3, and 5.11 of this report during favorable weather conditions. The loose natural silty, clayey sands, if encountered, will require improvement prior to pavement support. Areas of overexcavation of unsuitable fill materials may be anticipated due to the inherent variability that exists within existing fill materials; evidenced by the debris encountered. Subgrade stabilization with a biaxial geogrid, such as BX-1200 or equal, should be anticipated to limit overexcavation. If the unimproved existing fill materials remain below proposed subgrades, increased maintenance, possibly including crack sealing, patching or more frequent re-paving, may be necessary. If the risk of increased maintenance is not acceptable, more extensive subgrade preparation recommendations can be developed. The following pavement section recommendations are based on the assumption that such an increased risk is acceptable. Whitestone would be pleased to prepare alternative recommendations for more substantial subgrade improvements.

Design Criteria: A California Bearing Ratio (CBR) value of five has been assigned to the properly prepared subgrade soils for pavement design purposes. This value was correlated with pertinent soil support values and assumed traffic loads to prepare flexible and rigid pavement designs per the AASHTO *Guide for the Design of Pavement Structures*.

Design traffic loads were assumed based on typical volumes for similar facilities and correlated with 18-kip equivalent single axle loads (ESAL) for a 20 year life. An estimated maximum load of 25,000 ESAL was used for all pavement areas assuming the pavement primarily will accommodate both automobile and limited heavier truck traffic.

Pavement Sections: The following recommended flexible pavement section is presented below:

	FLEXIBLE PAVEMENT SECTION	
Layer	Material	Thickness (Inches)
Asphalt Surface	NYSDOT Type 7 or 7F Top	1.5
Asphalt Base	NYSDOT Type 3 Binder	2.5
Granular Subbase	NYSDOT Type 2 Subbase	6.0

A rigid concrete pavement should be used to provide suitable support at areas of high traffic or severe turns (such as drive-thru lanes, loading areas, garbage dumpster, and access aprons). The recommended rigid pavement is presented below in tabular format:

	RIGID PAVEMENT SECTION	
Layer	Material	Thickness (Inches)
Surface	4,000 psi air-entrained concrete	6.0
Base	NYSDOT Type 2 Subbase	6.0

Additional Design Considerations: The pavement section thickness designs presented in this report are based on the design parameters detailed herein and are contingent on proper construction, inspection, and maintenance. The designs are contingent on achieving the minimum soil support value in the field. To accomplish this requirement, all subgrade soil and supporting fill or backfill must be placed, compacted, and evaluated in accordance with Sections 5.2, 5.3, and 5.11 of this report. Proper drainage must be provided for the pavement structure including appropriate grading and surface water control.

The performance of the pavement also will depend on the quality of materials and workmanship. Whitestone recommends that NYSDOT standards for materials, workmanship, and maintenance be applied to this site. Project specifications should include verifying that the installed asphaltic concrete material composition is within tolerance for the specified materials and that the percentage of air voids of

the installed pavement is within specified ranges for the respective materials. All rigid concrete pavements should be suitably air-entrained, jointed, and reinforced.

5.8 RETAINING WALLS/LATERAL EARTH PRESSURES

No permanent retaining walls were identified for this site. Whitestone requests notification if retaining walls or below grade walls are incorporated into the site design.

5.9 SEISMIC AND LIQUEFACTION CONSIDERATIONS

The soils encountered during this investigation are most consistent with a Site Class D defined by the *New York State International Building Code (2010)*. Based on the seismic zone and soil profile, liquefaction considerations are not expected to have a substantial impact on design.

5.10 EXCAVATIONS

The majority of the soils encountered during this investigation within anticipated excavation depths are consistent with Type C Soil Conditions as defined by 29 CFR Part 1926 (OSHA) which require a maximum unbraced excavation angle of 1.5:1 (horizontal:vertical). Actual conditions encountered during construction should be evaluated by a competent person (as defined by OSHA) to ensure that safe excavation methods and/or shoring and bracing requirements are implemented.

5.11 SUPPLEMENTAL POST INVESTIGATION SERVICES

Construction Phase Evaluation of Existing Fill Materials: Based on the conditions disclosed by the soil borings, Whitestone anticipates that the existing fill materials encountered to the maximum depth of approximately four fbgs are not suitable for foundation support, however; may be suitable for ground-supported floor slab and pavement support contingent on supplemental evaluation by means of construction phase test pit excavations and subgrade improvement as recommended herein and with areas of overexcavation and recompaction/replacement of debris laden existing fill materials encountered. Additionally, the composition of the existing fill should be verified by visual observation and additional test pit excavations following demolition and either prior to or during the early stages of construction to enable further assessment of the depth, possible presence or absence of voids, uncontrolled conditions, or possible deleterious materials. Due to the inherent variability that exists within existing fill materials, Whitestone recommends confirming further the condition of the existing fill for floor slab and pavement support and/or re-use as structural fill by means of supplemental evaluation either prior to or during the early stages of construction, as discussed further herein, to identify areas requiring removal and possible uncontrolled conditions or deleterious materials not disclosed by the soil borings conducted during this exploration.

Demolition and Construction Monitoring and Testing: The owner's geotechnical engineer should perform inspection, testing, and consultation during construction as described in previous sections of this report. Monitoring and testing should also be performed to verify that suitable materials are used for controlled fill, and that they are properly placed and compacted over suitable subgrade soils and also to verify that the unsuitable existing fill materials are properly overexcavated prior to foundation support.

5.12 STORMWATER MANAGEMENT AREA EVALUATION

Whitestone's field investigation within the proposed potential SWM areas consisted of excavating six test pits (identified as SPP-1 through SPP-6); examining soil profiles; and performing four in-situ percolation tests. The percolation tests were conducted in general accordance with standards presented in the aforementioned *New York State Stormwater Management Design Manual – Appendix D* and *Westchester County BMP Manual*. The soils encountered were classified based on the United States Department of Agriculture (USDA) classification system. The location of the test pits and in-situ infiltration tests are shown on the *Test Location Plan* included as Figure 1.

Groundwater/Seasonal High Groundwater Levels: Groundwater was encountered within all of the proposed potential SWM areas, with the exception of SPP-6, at depths ranging from approximately 3.5 fbgs to 7.5 fbgs, corresponding to elevations ranging from 322.5 feet above msl to 308.0 feet above msl. Indications of seasonal high groundwater levels were observed at depths ranging from 1.5 fbgs to 7.5 fbgs, corresponding to elevations ranging from 322.5 feet above msl to 311.5 feet above msl.

The methods used in determining the seasonal high groundwater level include evaluating the soil morphology within the soil profile and identifying irregular spots or blotches of different colors or minerals unlike that of the surrounding soil (mottles). A summary of the conditions encountered in each test excavation performed within the proposed SWM areas and results of percolation testing are indicated in the table below, detailed subsurface conditions are presented on the enclosed *Records of Subsurface Exploration* included in Appendix A, and percolation test results are also provided in Appendix C.

	SWM PRO	OFILE PIT AND PEI	RCOLATION TEST	SUMMARY	
	Surface Elevation	ESHGW	USDA Classification	Percolation	Test
Profile Pit #		(fbgs/feet above msl)	÷	Depth (fbgs/feet above msl)	Rate (min/inch)
SPP-1	326.0	3.5/322.5	Sandy Loam	1.5/324.5	120
SPP-2	318.0	1.5/316.5	Silt Loam	0.7/317.3	>360
SPP-3	322.0	6.0/316.0	Loamy Sand	4.0/318.0	7.1
SPP-4	315.0	3.5/311.5	Silt Loam	1.5/313.5	>120

ESHGW - Estimated Seasonal High Groundwater

SECTION 6.0 General Comments

Supplemental recommendations may be required upon finalization of construction plans or if significant changes are made in the characteristics or location of the proposed structure. Soil bearing conditions should be checked at the appropriate time for consistency with those conditions encountered during Whitestone's geotechnical investigation.

The possibility exists that conditions between borings and profile pits may differ from those at specific boring and profile pit locations, and conditions may not be as anticipated by the designers or contractors. In addition, the construction process may alter soil and rock conditions. Therefore, experienced geotechnical personnel should observe and document the construction procedures used and the conditions encountered.

The recommendations presented herein should be utilized by a qualified engineer in preparing the project plans and specifications. The engineer should consider these recommendations as minimum physical standards which may be superseded by local and regional building codes and structural considerations. These recommendations are prepared for the sole use of Trinity Presbyterian Church for the specific project detailed and should not be used by any third party. These recommendations are relevant to the design phase and should not be substituted for construction specifications.

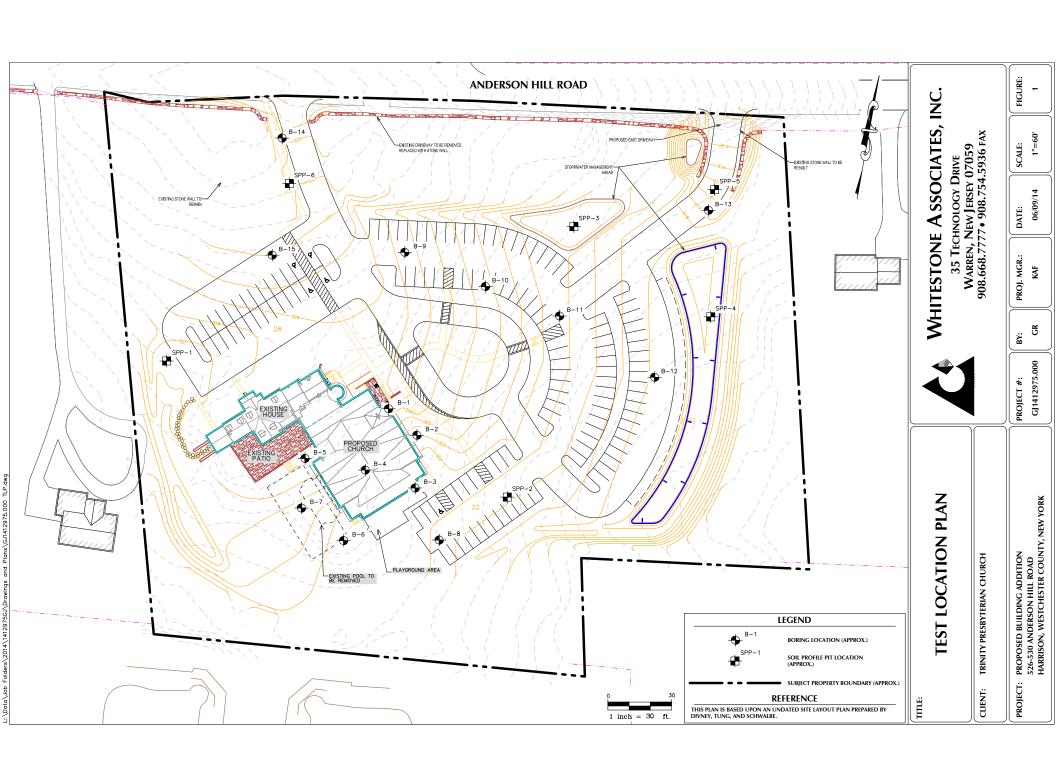
Whitestone assumes that a qualified contractor will be employed to perform the construction work, and that the contractor will be required to exercise care to ensure all excavations are performed in accordance with applicable regulations and good practice. Particular attention should be paid to avoiding damaging or undermining adjacent properties and maintaining slope stability.

Whitestone recommends that the services of the geotechnical engineer be engaged to test and evaluate the soils in the footing excavations prior to concreting in order to determine that the soils will support the bearing capacities. Monitoring and testing also should be performed to verify that suitable materials are used for controlled fills and that they are properly placed and compacted over suitable subgrade soils.

The exploration and analysis of the foundation conditions reported herein are considered sufficient in detail and scope to form a reasonable basis for the foundation design. The recommendations submitted for the proposed construction are based on the available soil information and the preliminary design details furnished by Divney Tung Schwalbe, LLP and Trinity Presbyterian Church. If deviations from the noted subsurface conditions are encountered during construction, they should be brought to the attention of the geotechnical engineer.

The geotechnical engineer warrants that the findings, recommendations, specifications, or professional advice contained herein have been promulgated after being prepared in accordance with generally accepted professional engineering practice in the fields of foundation engineering, soil mechanics, and engineering geology. No other warranties are implied or expressed.

FIGURE 1 Test Location Plan



APPENDIX A Records of Subsurface Exploration



Boring No.: B-1

(Page 1 of 1)

WAI Project No.: Project: GJ1412975.000 **Proposed Building Addition** Client: **Trinity Presbyterian Church** 526-530 Anderson Hill Road; Harrison, Westchester County, New York Location: Cave-in Depths/Elevations Date Started: 05/19/2014 Water Depths/Elevations Surface Elevation: ±324.5 feet above msl (feet / feet msl) (feet / feet msl) 05/19/2014 Date Completed: Termination Depth: 18.9 feet bgs $\bar{\boldsymbol{\Lambda}}$ While Drilling: 2.0/322.5(P) Logged By: Proposed Location: **Building Expansion** MK ∇ 23 Drilling/Test Method: HSA / SPT Contractor: DT At Completion: 6.5/318.0 At Completion: Ţ 24 Hours: Equipment: 24 Hours: **ATV Rig** Sample Information DESCRIPTION OF MATERIALS REMARKS Depth Strata Blows Per 6" (Classification) Depth Ν (feet) (feet) Recovery 0.0 TS 8" Topsoil 2-3-5-4 0.7 8 0.0 - 2.0S-1 Strong Brown Silty Sand, Trace Fine Roots, Moist (FILL) FILL (14 in.) 2.0 Light Brown Sandy Silt, Wet (FILL) 3-3-8-26 3.0 S-2 2.0 - 4.0 11 (18 in.) GLACIAL Light Brown Silty Sand, Moist, Medium Dense (SM) DEPOSITS 7-18-30-36 5.0 4.0 - 6.0 S-3 48 As Above, Dense (SM) (18 in.) 31-24-11-12 As Above, Very Moist to Wet (SM) 6.0 - 8.0 S-4 35 (18 in.) 10.0 10-17-34-10.0 - 11.7 S-5 50/2" 51 Brown Silty, Clayey Sand, Wet, Very Dense (SC-SM) (20 in.) 21-31-25-26 Brown Silty Sand with Angular Gravel, Wet, Very Dense (SM) 15.0 -17.0 S-6 56 (16 in.) 45-50/5" As Above with Rounded and Angular Gravel (SM) 18.0 - 18.9 S-7 50/5" (11 in.) 18.9 Boring B-1 Terminated at a Depth of 18.9 Feet Below Ground Surface 20.0



Boring No.: B-2

(Page 1 of 1)

WAI Project No.: GJ1412975.000 Project: **Proposed Building Addition** Client: **Trinity Presbyterian Church** Location: 526-530 Anderson Hill Road; Harrison, Westchester County, New York Cave-in Depths/Elevations Date Started: Water Depths/Elevations Surface Elevation: 05/19/2014 ±323.0 feet above msl (feet / feet msl) (feet / feet msl) Date Completed: 05/19/2014 Termination Depth: 18.3 feet bgs Ã Logged By: While Drilling: 10.0/313.0 Proposed Location: MK **Building Expansion** ∇ <u>...</u> 💆 Drilling/Test Method: HSA / SPT Contractor: DT At Completion: 6.0/317.0 At Completion: Ţ 24 Hours: 24 Hours: Equipment: ATV Rig Sample Information DESCRIPTION OF MATERIALS REMARKS Depth Strata Blows Per 6" (Classification) Depth Ν (feet) Recovery (feet) 6" Topsoil 0.5 Light Brown Silty, Clayey Sand, Very Moist, Very Loose (SC-SM) GLACIAL 2-2-1-2 0.0 - 2.03 S-1 DEPOSITS (14 in.) 2.0 12-15-22-23 Brown Silty Sand with Subangular and Rounded Gravel, Moist, Dense (SM) 37 2.0 - 4.0S-2 (18 in.) 13-12-16-15 28 As Above, Subangular Gravel, Trace Roots, Very Moist, Medium Dense (SM) 5.0 - 7.0S-3 (18 in.) 15-22-29-32 51 As Above, No Gravel or Roots, Very Dense (SM) 7.0 - 9.0S-4 (22 in.) 10.0 21-45-50/4" 95/ 10.0 - 11.3 S-5 As Above, No Gravel, Wet (SM) 10" (14 in.) 14-24-23-42 15.0 - 17.0 47 As Above, Dense (SM) S-6 (24 in.) Grayish-Brown Silty Sand with Gravel-Sized Weathered Rock Fragments, Wet, 18.0 RES 50/3" 18.0 - 18.3 S-7 50/3" (3 in.) 18.3 **r** Boring B-2 Terminated at a Depth of 18.3 Feet Below Ground Surface 20.0



Boring No.: B-3

(Page 1 of 1)

WAI Project No.: GJ1412975.000 Project: **Proposed Building Addition** 526-530 Anderson Hill Road; Harrison, Westchester County, New York Client: **Trinity Presbyterian Church** Location: Date Started: Water Depths/Elevations Cave-in Depths/Elevations 05/19/2014 Surface Elevation: ±322.0 feet above msl (feet / feet msl) (feet / feet msl) Date Completed: 05/19/2014 Termination Depth: 18.4 feet bgs Ā While Drilling: 10.0/312.0 Logged By: MK Proposed Location: **Building Expansion** ∇ --- 選 Drilling/Test Method: At Completion: HSA / SPT Contractor: DT At Completion: 4.0/318.0 Ţ @ 2 Hours: 24 Hours: 3.0/319.0 Equipment: **ATV Rig** Sample Information DESCRIPTION OF MATERIALS REMARKS Depth Strata (Classification) Blows Per 6" Depth N (feet) (feet) Recovery 0.0 6" Topsoil 0.5 GLACIAL Light Brown Silty, Clayey Sand, Trace Fine Roots, Very Moist, Very Loose LL = 241-1-1-2 0.0 - 2.0 S-1 2 (SC-SM) PI = 4DEPOSITS (14 in.) 2.0 3-8-10-16 18 Brown Silty Sand, Moist, Medium Dense (SM) 2.0 - 4.0S-2 (18 in.) 19-24-18-29 As Above, Brown to Gray, with Angular Gravel, Dense (SM) 42 5.0 - 7.0S-3 (8 in.) 20-30-22-24 As Above, Brown, No Gravel, Very Dense (SM) 7.0 - 9.0 S-4 52 (20 in.) 10.0 10-42-47-45 As Above, Wet (SM) 89 10.0 - 12.0 S-5 (17 in.) 8-12-21-19 15.0 - 17.0 33 As Above, Gray Brown. Dense (SM) S-6 (12 in.) Light Gray to Brown Weathered Rock Sampled as Poorly Graded Gravel with Sand, Wet (WR) 18.0 WR 50/5" 18.0 - 18.4 S-7 50/5" (5 in.) 18.4 Boring B-3 Terminated at a Depth of 18.4 Feet Below Ground Surface 20.0 25.0



Boring No.: B-4

Project:		Pro	oposed Build	ing A	ddition		WAI Project No.: GJ14129	75.000
Location:		520	5-530 Anders	on Hi	ll Road	; Harrison	Westchester County, New York Client: Trinity P	resbyterian Church
Surface Ele			±324.5 18.3 fee		bove ms		tarted: 05/19/2014 Water Depths/Elevations Cave (feet / feet msl)	e-in Depths/Elevations (feet / feet msl)
Proposed L	ocation	n:	Buildin	_	ansion	Logge		
Drilling/Te	st Metl	hod:	HSA/S	SPT		Contr		mpletion: 💆
						Equip	ment: ATV Rig @ 1 Hours: 3.5/321.0 ▼ 24 Ho	ours:
	T	П	ormation		Doub	G	DESCRIPTION OF MATERIALS	REMARKS
Depth (feet)	Number	Type	Blows Per 6" Recovery	N	Depth (feet)	Strata	(Classification)	
0.0 - 2.0	S-1	M	2-2-2-2 (18 in.)	4	0.0 —	TS GLACIAL DEPOSITS	6" Topsoil Light Brown Silty, Clayey Sand, Trace Fine Roots, Very Moist, Loose (SC-SM)	LL = 24 PI = 4
2.0 - 4.0	S-2	M	2-3-11-33 (11 in.)	14	3.0		As Above (SC-SM) Grayish-Brown Silty Sand with Angular Gravel, Moist, Medium Dense (SM)	
5.0 - 5.3	S-3	×	50/4" (2 in.)	50/4"	5.0		As Above, Very Dense (SM)	
				_	- - -			
8.0 - 10.0	S-4	X	11-21-22-26 (16 in.)	43	710.0		As Above, Grayish-Brown, Wet, Dense (SM)	Mottling
10.0 - 11.4	S-5	X	8-43-50/5" (12 in.)	93/ 11"			As Above, No Gravel, Very Dense (SM)	
15.0 - 15.8	S-6	X	20-50/4" (6 in.)	50/4"	15.0		As Above, with Subrounded Gravel (SM)	
					│		As Above, No Gravel (SM)	
18.0 - 18.3	S-7	M	50/4" (4 in.)	50/4"	18.3		Boring B-4 Terminated at a Depth of 18.3 Feet Below Ground Surface	
					20.0			
					25.0		RECORD OF SUBSURFACE EX	1000



Boring No.: B-5

(Page 1 of 1)

WAI Project No.: Project: GJ1412975.000 **Proposed Building Addition** Client: **Trinity Presbyterian Church** 526-530 Anderson Hill Road; Harrison, Westchester County, New York Location: Cave-in Depths/Elevations Date Started: 05/19/2014 Water Depths/Elevations Surface Elevation: ±326.5 feet above msl (feet / feet msl) (feet / feet msl) Date Completed: 05/19/2014 Termination Depth: 20.8 feet bgs Â While Drilling: 10.0/316.5 Logged By: MK Proposed Location: **Building Expansion** ∇ ___ 🗷 Drilling/Test Method: HSA / SPT Contractor: DT At Completion: 5.0/321.5 At Completion: Ţ 24 Hours: 24 Hours: Equipment: ATV Rig Sample Information **DESCRIPTION OF MATERIALS** REMARKS Depth Strata (Classification) Blows Per 6" Depth Ν (feet) (feet) Recovery 0.0 0.5 TS 6" Topsoil Strong Brown Silty Sand, Trace Medium to Fine Roots, Moist (FILL) 1-1-1-2 FILL 2 0.0 - 2.0S-1 (6 in.) 2.0 GLACIAL DEPOSITS 5-6-6-7 Brown Silty Sand, Moist, Medium Dense (SM) 12 2.0 - 4.0 S-2 (20 in.) 14-21-35-25 As Above, Trace Subrounded and Angular Gravel, Very Dense (SM) 5.0 - 7.0 S-3 56 (18 in.) 22-20-16-15 As Above, No Gravel, Dense (SM) 7.0 - 9.0 36 S-4 (20 in.) 10.0 7-17-28-42 As Above, Trace Subrounded Gravel, Wet (SM) 10.0 - 12.0 S-5 45 (12 in.) 38-50/3" 16.0 - 16.8 50/3" As Above, Grayish-Brown, with Angular Gravel (SM) S-6 (8 in.) 20.0 16-50/3" As Above. Subrounded to Angular Gravel (SM) S-7 50/3" 20.0 - 20.8 (9 in.) 20.8 Boring B-5 Terminated at a Depth of 20.8 Feet Below Ground Surface



Boring No.: B-6

Project:		Pr	oposed Build	ing A	ddition				WAI Project No.: G.	J141297	5.000
Location:						Harris	son,	Westchester County, New	York Client: Ti	inity Pi	esbyterian Church
Surface Ele	evation		±325.0					arted: 05/20/2014	Water Depths/Elevations		-in Depths/Elevations
Terminatio	n Dept	h:	18.9 fee	et bgs		Da	ate C	ompleted: 05/20/2014	(feet / feet msl)		(feet / feet msl)
Proposed I			Buildin	_	ansion	Lo					
Drilling/Te			HSA/S	-		Co	ontra	By: MK tor: DT	At Completion: 7.0/318.0 ∇	At Co	mpletion: 💆
						Ec	quipn		24 Hours: ▼	24 Ho	urs:
	Samp	le Inf	ormation			l	T				
Depth (feet)	Number	Type	Blows Per 6" Recovery	N	Depth (feet)	Strata	1		TION OF MATERIALS Classification)		REMARKS
					0.0	TS	1	6" Topsoil			
0.0 - 2.0	S-1	\mathbb{X}	2-3-3-3 (10 in.)	6	2.0	FILL		Strong Brown Sandy Silt, Trace	Fine to Medium Roots, Moist (FILL)		
2.0 - 4.0	S-2	X	3-21-21-11 (14 in.)	42		GLACIA DEPOSI	TS	Brown Silty Sand with Angular (Gravel, Moist, Dense (SM)		
5.0 - 7.0	S-3	X	14-11-11-12 (20 in.)	22	5.0			Brown Silty, Clayey Sand, Mois	t, Medium Dense (SC-SM)		
7.0 - 9.0	S-4	\bigvee	11-15-24-27 (18 in.)	39				Brown Silty Sand, Trace Angula	r Gravel, Very Moist, Dense (SM)		
10.0 - 11.3	S-5	X	11-33-50/4" (16 in.)	83/ 10"	710.0			As Above, Very Dense, Wet (SN	м)		Moderate Auger Grinding 11.0 fbgs to 15.0 fbgs
					15.0						
16.0 - 18.0	S-6	X	20-40-41-50 (18 in.)	81				As Above, with Subrounded Gra	avel (SM)		Heavy Auger Grinding 15.0 fbgs to 16.0 fbgs; Augered Through Probable Boulders
18.0- 18.9	S-7	X	50-50/5" (8 in.)	50/5"	18.9						
					20.0			Boring B-6 Terminated at a Dep	th of 18.9 Feet Below Ground Surface		



Boring No.: B-7

Project:		Pro	posed Build	ing A	ddition				WAI Project No.:	GJ14	412975.000
Location:		526	6-530 Anders	on Hi	ll Road;	Harris	on, V	Vestchester County, New	York Client:	Trini	ity Presbyterian Church
Surface Ele	evation				bove ms			nted: 05/20/2014	Water Depths/Elevatio	ns	Cave-in Depths/Elevation
Terminatio	n Dept	h:	20.7 fee	et bgs		Dat	le Co	npleted: 05/20/2014	(feet / feet msl)		(feet / feet msl)
Proposed L			Buildin	_	ansion	Log	gged	Ву: МК	While Drilling: 2.0/323.0(P)	Ā	
Drilling/Te			HSA/S			Con	ntrac	or: DT	At Completion: 7.0/318.0	∇	At Completion:
						Ear	aipm	ent: ATV Rig	24 Hours:	Y	24 Hours:
	Samn	le Infe	ormation		l I		1	111, 119		I	
Depth (feet)	Number	Type	Blows Per 6" Recovery	N	Depth (feet)	Strata			TION OF MATERIALS Classification)		REMARKS
					0.0	TO.	11/2	CHT			
0.0 - 2.0	S-1	X	2-2-3-8 (10 in.)	5	0.5	TS FILL	8	6" Topsoil Strong Brown Sandy Silt, Trace	Fine to Medium Roots, Moist (FILI	L)	
2.0 - 4.0	S-2	M	3-2-3-20 (16 in.)	5	3.5	CI ACIA	L S	As Above, Wet (FILL)	(SM)		
					5.0	GLACIA DEPOSIT	Š	Brown Silty Sand, Moist, Loose	(SIM)		
5.0 - 7.0	S-3	X	12-30-20-21 (12 in.)	50	- - -			As Above, Trace Subrounded G	ravel, Very Dense (SM)		
7.0 - 9.0	S-4	M	24-25-27-23 (18 in.)	52				As Above, Angular Gravel, Ver	y Moist (SM)		
10.0 - 11.3	S-5	X	24-50-50/4" (18 in.)	100/	10.0			As Above, Grayish-Brown, No (Gravel, Wet (SM)		Moderate to Heavy Auger Grinding 9.0 fbgs to 10.0 fbgs Mottling 10.0 fbgs to 11.3 fbgs Sporadic Auger Grinding
15.0 - 16.3	S-6	X	22-49-50/4" (14 in.)	99/ 10"	15.0			As Above, Trace Subrounded at	nd Angular Gravel (SM)		11.0 fbgs to 15.0 fbgs
20.0 - 20.7	S-7	X	48-50/2" (6 in.)	50/2"	20.0	NIII AB ATT		As Above (SM) Boring B-7 Terminated at a Dep	oth of 20.7 Feet Below Ground Surfa	ace	Moderate to Heavy Auger Grinding 19.0 fbgs to 20.0 fbgs on Probable Boulders
					25.0						



Boring No.: B-8

(Page 1 of 1)

WAI Project No.: GJ1412975.000 Project: **Proposed Building Addition** 526-530 Anderson Hill Road; Harrison, Westchester County, New York Client: **Trinity Presbyterian Church** Location: Cave-in Depths/Elevations Date Started: 05/20/2014 Water Depths/Elevations Surface Elevation: ±321.0 feet above msl (feet / feet msl) (feet / feet msl) Date Completed: 05/20/2014 Termination Depth: 6.0 feet bgs Ã While Drilling: 5.0/316.0 Proposed Location: Logged By: MK **Pavement** ∇ <u>---</u> 🔀 Drilling/Test Method: Contractor: DT At Completion: 5.0/316.0 At Completion: HSA / SPT Ţ 24 Hours: 24 Hours: Equipment: **ATV Rig** Sample Information **DESCRIPTION OF MATERIALS** REMARKS Depth Strata (Classification) Blows Per 6" Depth Ν (feet) (feet) Recovery 4" Topsoil 0.0 TS 0.3 GLACIAL Light Brown Silty, Clayey Sand, Trace Roots, Moist, Loose (SC-SM) 2-2-2-2 DEPOSITS 4 0.0 - 2.0S-1 (12 in.) 2.0 7-17-22-26 Brown Silty Sand with Angular Gravel, Moist, Dense (SM) 2.0 - 4.0 S-2 39 (14 in.) 25-34-34-36 ₮.0 S-3 As Above, Moist to Wet, Very Dense (SM) 4.0 - 6.0 (16 in.) 6.0 Boring B-8 Terminated at a Depth of 6.0 Feet Below Ground Surface



Boring No.: B-9

(Page 1 of 1)

WAI Project No.: GJ1412975.000 Project: **Proposed Building Addition** Client: **Trinity Presbyterian Church** Location: 526-530 Anderson Hill Road; Harrison, Westchester County, New York Cave-in Depths/Elevations Water Depths/Elevations Date Started: 05/20/2014 Surface Elevation: ±328.0 feet above msl (feet / feet msl) (feet / feet msl) Date Completed: 05/20/2014 Termination Depth: 6.0 feet bgs À While Drilling: NE Logged By: MK Proposed Location: **Pavement** At Completion: NE $\sqrt{}$ At Completion: --- <u>M</u> Contractor: DT Drilling/Test Method: HSA / SPT ¥ 24 Hours: ATV Rig 24 Hours: Equipment: Sample Information DESCRIPTION OF MATERIALS REMARKS Depth Strata (Classification) Blows Per 6" Depth (feet) (feet) Recovery 0.0 -TS 6" Topsoil 0.5 Strong Brown Silty Sand, Trace Debris, Moist (FILL) Debris: Asphalt 6-7-5-4 FILL 12 0.0 - 2.0S-1 (12 in.) Debris: Concrete 6-8-22-31 Low Recovery, 2.0 - 4.0 S-2 30 As Above, Brown (FILL) (2 in.) Concrete in Tip GLACIAL **DEPOSITS** 20-26-24-24 5.0 Brown Silty Sand with Subrounded Gravel, Moist, Very Dense (SM) 50 4.0 - 6.0 S-3 (16 in.) 6.0 Boring B-9 Terminated at a Depth of 6.0 Feet Below Ground Surface



Boring No.: B-10
(Page 1 of 1)

Project:		Pr	oposed Build	ing A	ddition					WAI Proj	ect No.:	GJ	1412975.0	00	
Location:		52	6-530 Anders	on Hi	ill Road	; Ha	rrison	, W	estchester County, New	York	Client:	Tri	inity Presb	yterian	Church
Surface Ele	evation		±323.0				Date			Water Depths/		ns			/Elevation:
Terminatio	on Dept	h:	6.0 feet	bgs			Date	Cor	npleted: 05/20/2014	(feet / fee	t msl)		(fe	eet / feet	msl)
Proposed L	_ocatio	n:	Paveme	ent			Logg	ed E	y: MK	While Drilling:	NE	Δ			
Drilling/Te	est Metl	hod:	HSA/S	SPT			Conti	acto	or: DT	At Completion:	NE	∇	At Compl	etion:	💆
							Equip	me	nt: ATV Rig	24 Hours:			24 Hours:		***
	Samp	le Inf	ormation												
Depth (feet)	Number	Type	Blows Per 6" Recovery	N	Depth (feet)	St	trata			TION OF MATERIA Classification)	LS			REN	MARKS
					0.0		TS	11//	6" Topsoil						
0.0 - 2.0	S-1	X	1-2-3-2 (16 in.)	5	2.0	F	ILL	XXXX	Brown Sandy Silt, Trace Mediun	n to Fine Roots, Moist (FILL)				
2.0 - 4.0	S-2	X	2-7-14-19 (16 in.)	21		GL/ DEF	ACIAL POSITS		Brown to Orange Brown Silty Sa	and, Moist, Medium De	nse (SM)				
4.0 - 6.0	S-3	\bigvee	34-24-23-26 (14 in.)	47	5.0				As Above, with Angular Gravel,	Dense (SM)					
					10.0										



Boring No.: B-11

Project:		Pr	oposed Build	ing A	ddition					WAI Proj	ect No.:	GJ	141297	5.000	
Location:		52	6-530 Anders	on Hi	ill Road	 ; На	ırrison	, V	Vestchester County, New	York	Client:	Tr	inity Pr	esbyterian	Church
Surface Ele	evation		±319.0				Date			Water Depths/			1	-in Depths	s/Elevations
Terminatio	n Dept	h:	6.0 feet	bgs			Date	Coı	mpleted: 05/20/2014	(feet / feet	t msl)			(feet / fee	t msl)
Proposed L	ocation	n:	Paveme	ent			Logg	ed I	Ву: МК	While Drilling:	NE	${ar \Lambda}$			
Drilling/Te	st Metl	hod:	HSA/S	SPT			Conti	act	or: DT	At Completion:	NE	∇	At Co	mpletion:	<u></u> <u>M</u>
							Equip	ome	nt: ATV Rig	24 Hours:		¥	24 Ho	urs:	
	Samp	le Inf	ormation												
Depth (feet)	Number	Туре	Blows Per 6" Recovery	N	Depth (feet)	S	trata			TION OF MATERIAL Classification)	LS			REI	MARKS
		/			0.0 —		TS	TI/	8" Topsoil						
0.0 - 2.0	S-1	\mathbb{X}	1-2-4-8 (16 in.)	6	0.7	GL. DEI	ACIAL POSITS		Brown Silty Sand, Trace Subrou	nded Gravel, Very Mois	t, Loose (S	SM)			
2.0 - 4.0	S-2	X	13-17-19-30 (12 in.)	36	- - -				As Above, No Gravel, Dense (S	M)					
4.0 - 6.0	S-3		32-35-46-39 (12 in.)	81	5.0				As Above, Brown to Orange Bro	own, Very Dense (SM)					
					- 0.0			Ш	Boring B-11 Terminated at a De	pth of 6.0 Feet Below G	round Surf	ace			
					_	ł									
					-	1									
					-	1									
					_										
					10.0	1									
					_	1									
					-	1									
						1									
					15.0										
						1									
						1									
						1									
					-	1									
						1									
					_	1									
					20.0	1									
					-	1									
					_	1									
						1									
						1									
					-	-									
					25.0	1									



Boring No.: B-12

(Page 1 of 1)

Project: WAI Project No.: GJ1412975.000 **Proposed Building Addition** 526-530 Anderson Hill Road; Harrison, Westchester County, New York Client: **Trinity Presbyterian Church** Location: Date Started: Water Depths/Elevations Cave-in Depths/Elevations Surface Elevation: ±314.0 feet above msl 05/20/2014 (feet / feet msl) (feet / feet msl) Date Completed: Termination Depth: 05/20/2014 6.0 feet bgs Ā While Drilling: 5.0/309.0 Logged By: Proposed Location: **Pavement** MK Drilling/Test Method: HSA / SPT Contractor: DT At Completion: 5.0/309.0 ∇ At Completion: --- 💆 ¥ 24 Hours: Equipment: 24 Hours: **ATV Rig** Sample Information DESCRIPTION OF MATERIALS REMARKS Depth Strata (Classification) Depth Blows Per 6" N (feet) (feet) Recovery 0.0 0.5 TS 6" Topsoil Brown Silty, Clayey Sand, Trace Fine Roots, Moist, Loose (SC-SM) GLACIAL 2-2-2-5 0.0 ~ 2.0 S-1 4 (16 in.) DEPOSITS 2.0 7-17-24-21 Brown Silty Sand, Trace Angular Gravel, Moist, Dense (SM) 2.0 - 4.0 S-2 41 (20 in.) 22-31-28-26 5.0 4.0 - 6.0 S-3 59 As Above, Angular and Subrounded Gravel, Very Dense (SM) (18 in.) 6.0 Boring B-12 Terminated at a Depth of 6.0 Feet Below Ground Surface



Boring No.: B-13

Project:		Pr	oposed Build	ing A	ddition				WAI Proj	ect No.:	GJ	141297	5.000		
Location:		52	6-530 Anders	son Hi	ll Road:	; Harrison	ı, V	Vestchester County, New	York	Client:	Tri	inity Pr	esbyteria	n Church	
Surface Ele	evation		±318.5						Water Depths/	Elevatio		T	-in Depth	s/Elevations	
Terminatio	n Dept	h:	4.8 feet				Coı	mpleted: 05/20/2014	(feet / feet msl)				(feet / fee	et msl)	
Proposed L			Paveme			Logg	ed 1		While Drilling:	NE	Ā				
Drilling/Te			HSA/S			Cont			At Completion:	NE	∇	At Co:	ompletion: 💆		
_					Equip	ome	nt: ATV Rig	24 Hours:		Ţ	24 Ho	urs:			
	Samp	le Inf	ormation				Т	<u> </u>							
Depth (feet)	Number	Type	Blows Per 6" Recovery	N	Depth (feet)	Strata			ION OF MATERIA Classification)	LS			RE	MARKS	
		7			0.0	TS	312	6" Topsoil	· · · · · · · · · · · · · · · · · · ·				1		
0.0 - 2.0	S-1	X	1-1-1-1 (8 in.)	2	2.0	FILL	XXXX	Light Brown Sandy Silt, Trace F	ine Roots, Very Moist (FILL)					
2.0 - 4.0	S-2	X	6-16-29-38 (14 in.)	45		GLACIAL DEPOSITS		Brown Silty Sand, Trace Angula	r Gravel, Moist, Dense	(SM)					
4.0 - 4.8	S-3	X	18-50/4" (10 in.)	50/4"	4.8			As Above, No Gravel, Very Den Boring B-13 Terminated at a De		15	D.				
					10.0										



Boring No.: B-14

Project:		Pr	oposed Build	ing A	ddition				WAI Proj	ect No.:	GJ1	141297	75.000	
Location:						: Harriso	n. \	Westchester County, New		Client:			resbyteriar	1 Church
Surface Ele	evation		±334.5						Water Depths/					
Termination			6.0 feet		DOVE III.	Date Completed: 05/20/2014			(feet / fee		113	Cave	re-in Depths/Elevations (feet / feet msl)	
Proposed I			Pavemo			Logged By: MK			While Drilling:				· · · · · · · · · · · · · · · · · · ·	
Drilling/Te						Con			At Completion:	NE	∇	At Co	mpletion:	<u></u> <u>Z</u>
Dinning/10	JSE IVICE	nou.	пзал	3F 1		Equi			24 Hours:		¥	24 Ho		
	Same	de Int	formation			Lqu	T	circ. Alv Kig	24 110018.		T	24 110	1415.	
	T	1	omation	I	Depth	Strata		DESCRIPT	ION OF MATERIA	LS			REI	MARKS
Depth (feet)	Number	Type	Blows Per 6" Recovery	N	(feet)	Suata		(C	Classification)					
(1000)	Z	_	11000101		0.0	TS	31/2	2" Topsoil						
		N7			0.0	FILL	2		Debris, Moist (FILL)				Debris: Co	ncrete
0.0 - 2.0	S-1	IX	6-12-8-5 (6 in.)	20	_		****		, , ,					
	<u> </u>	V			2.0		8							
		\mathbb{N}	4-6-9-14		_	GLACIAL DEPOSITS								
2.0 - 4.0	S-2	ΙX	(12 in.)	15				Brown Silty Sand, Trace Subroud	nded Gravel, Moist, Me	edium Dense	(SM)			
		$\langle \cdot \rangle$												
4.0 - 6.0	S-3	V	11-18-19-23	37	5.0		₩	Ac Above Dence (CM)						
4.0 ~ 6.0	3-3	$ \Lambda $	(18 in.)	3/				As Above, Dense (SM)						
		\vdash			6.0		<u> </u>	Boring B-14 Terminated at a Dep	oth of 6.0 Feet Below G	round Surfa	ce			
					-									
					_									
					10.0									
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					-									
					15.0									
					-									
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					20.0									
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					-									
					-									
					25.0									
					-									



Boring No.: B-15

Project:		Pro	oposed Build	ing A	ddition	·	WAI Project No.: (GJ14129	75,000		
Location:						•			resbyterian Church		
Surface Ele	evation		±331.0				Started: 05/20/2014 Water Depths/Elevations		e-in Depths/Elevations		
Terminatio			6.0 feet				Completed: 05/20/2014 (feet / feet msl)		(feet / feet msl)		
Proposed I			Paveme					7			
Drilling/Te			HSA / S			Conti			Completion: 🖼		
			110/1/	J			ment: ATV Rig 24 Hours: Y				
	Samp	le Inf	ormation		1	-1	W W				
Depth (feet)	Number	Type	Blows Per 6" Recovery	N.	Depth (feet)	Strata	DESCRIPTION OF MATERIALS (Classification)		REMARKS		
					0.0	TS	4 ⁿ Topsoil				
0.0 - 2.0	S-1	X	2-3-4-5 (8 in.)	7	2.0	FILL	Strong Brown Silty Sand, Trace Medium Roots, Moist (FILL)				
2.0 - 4.0	S-2	M	3-22-20-16 (10 in.)	42			Brown Silty Sand, Moist, Dense (SM)				
4.0 - 6.0	S-3	M	14-17-21-18 (12 in.)	38	5.0		As Above, with Gravel (SM)				
					10.0						



Soil Profile Pit No.: SPP-1

Project:	Propo	sed Buildi	ng Addition			WAI Project	No.: GJ	141297	5.000
Location:	526-53	30 Anders	on Hill Road;	Harrison, We	stchester County, New	York C	lient: Tri	nity Pr	esbyterian Church
Surface Eleva	ation:	±326.0 fe	et above msl	Date Starte	d: 05/19/2014	Water Depths/El	evations	Estimated Seasonal High	
Termination	Depth:	8.0 feet b	gs	Date Comp	leted: 05/19/2014	(feet bgs / feet		r	Groundwater Depths/Elevations
Proposed Loc	cation:	SWM		Logged By:	MK	While Exc.: 3.5/	322.5		feet bgs / feet msl)
Excavating/T	est Method:		Excavation/	Contractor:	MC	At Completion: 7.5/	319.0	ESHG	W: 3.5/322.5
	-	Visual O	bservation	Equipment:	Track Excavator	Hours: 7.0/	319.0 ₹	<u> </u>	
Sar Depth (feet)	nple Information Number	Type	Depth (feet/inches)	Horizon		PTION OF MATERIAI (Classification)	LS		REMARKS
(1001)		2,7,92	0.0' (0")						
				TOPSOIL	8" Topsoil				
			0.7' (8")	SANDY LOAM	Yellowish-Brown (10YR 5/6) Moderate, Medium Subangula Fine to Medium Roots; No Me	ir Blocky Structure; Moist	to Wet; Friable	e; Few	
		Ź	f –						
			_		·				Soils Saturated Starting @ 3.5 fbgs and Throughout to
4.0 - 4.5	S-1	BAG							8.0 fbgs
			5.0' (60")						Mottling @ 3.5 fbgs
		,	, 7						
		Z							
		=							
			8.0' (96")						
					Soil Profile Pit SPP-1 Termina Surface	nted at a Depth of 8.0 Feet	Below Ground	i	
			10.0' (120")						
								i	
			_						
			15.0' (180")						



Soil Profile Pit No.: SPP-2

Project:	Propo	sed Build	ing Addition			WAI Project No.: GJ14129	975.000	
Location:	526-53	30 Anders	on Hill Road; I	Harrison, We	stchester County, New	York Client: Trinity I	Presbyterian Church	
Surface Eleva	ation:	±318.0 fe	eet above msl	Date Starte	d: 05/19/2014	Water Depths/Elevations Es	timated Seasonal High	
Termination 1	Depth:	8.0 feet l	ogs	Date Comp	leted: 05/19/2014	(feet bgs / feet msl)	Groundwater Depths/Elevations	
Proposed Loc	cation:	SWM		Logged By:	: MK	While Exc.: 4.5/313.5	(feet bgs / feet msl)	
Excavating/T	est Method:	Test Pit	Excavation/	Contractor:	MC	At Completion: 7.5/310.5		
Visual Observation				Equipment		@ 0.5 Hours: 7.0/311.0		
Sample Information				1		<u> </u>		
Depth (feet) Number Type (feet/inches)				Horizon		PTION OF MATERIALS (Classification)	REMARKS	
(,			0.0' (0")					
				TOPSOIL	8" Topsoil			
			0.7' (8")	SILT	Proven (10VD 4/2) SILT LO	AM; 5% Gravel; Moderate, Medium Subangular	_	
				LOAM		ole; No Roots; No Mottling; Clear Boundary		
0.7 - 1.5	S-I	BAG						
			-					
			1.5' (18")	LOAMY	Vallowich Prover (10VD 4/6)	LOAMY SAND; 10% Gravel, 5% Cobbles;	Mottling @ 1 5 fb-cc	
				SAND	Moderate, Medium Subangula	ar Blocky Structure; Moist to Wet; Friable; No	Mottling @ 1.5 fbgs	
2.0 - 2.5	S-2	BAG			Roots; Few Fine to Medium F	Faint to Distinct Mottles (<5MM to <15 MM)		
		7	→					
			5.0' (60")				Soils Saturated @ 4.5 fbg	
			3.0 (00)				Throughout to 8.0 fbgs	
			-					
		`	†					
		,	★					
		7	∳					
			8.0' (96")					
					Soil Profile Pit SPP-2 Termina Surface	ated at a Depth of 8.0 Feet Below Ground		
				i	Bullace			
			-					
			10.0' (120")					
			-					
			-					
			15.0' (180")					



Soil Profile Pit No.: SPP-3

Project:	Propo	sed Buildi	ng Addition			WAI Project No.:	GJ141297	5.000	
Location:	526-5	30 Anders	on Hill Road; I	Iarrison, We	stchester County, New	York Client:	Trinity Pr	esbyterian Church	
Surface Eleva	ation:	±322.0 fe	et above msl	Date Starte	d: 05/19/2014	Water Depths/Elevation	Estimated Seasonal High		
Termination	Depth:	8.0 feet b	gs	Date Comp	leted: 05/19/2014	(feet bgs / feet msl)	Groundwater Depths/Elevations		
Proposed Loc	cation:	SWM		Logged By:	: MK	While Exc.: 6.0/316.0		feet bgs / feet msl)	
Excavating/T	est Method:		Excavation/	Contractor:	MC	At Completion: 7.0/315.0	□ ESHG	W: 6.0/316.0	
		Visual O	bservation	Equipment	Track Excavator	Hours:	Ā		
Sai	Sample Information			77	DESCRII	PTION OF MATERIALS		REMARKS	
Depth (feet)	Number	Туре	Depth (feet/inches)	Horizon		(Classification)			
(/		- 7,7-	0.0' (0")						
			0.3'(4)	TOPSOIL FILL	4" Topsoil Brown Silty Sand, Trace Debr	rio Moint		Debris: Asphalt, Metal	
				FILL	Brown Sitty Sand, Trace Debr	ris, ivioist		and Wood	
			2.0' (24")						
			2.0 (24)	LOAMY		LOAMY SAND; 15% Gravel, 5% (
			-	SAND	Moderate, Medium Subangula No Mottling to Few Fine Fain	ar Blocky Structure; Moist to Wet; N t Mottles	o Roots;		
			-		3				
			-	,					
			-						
4.0 - 4.5	S-1	BAG	∤						
			5.0' (60")						
]]						
		Ž	<u> </u>						
								Soils Saturated @ 6.0 fbgs with Mottling to 8.0 fbgs	
		7	7						
			8.0' (96")						
			0.0 (20)			nted at a Depth of 8.0 Feet Below Gr	ound		
					Surface				
			_						
			-						
			10.0' (120")						
			-						
			-						
			15.0' (180")						
			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \						



Soil Profile Pit No.: SPP-4

Project:	Propo	sed Buildi	ng Addition			WAI Project No.:	GJ141	12975.000
Location:	526-5	30 Anders	on Hill Road;	Harrison, We	stchester County, New	York Client:	Trinit	y Presbyterian Church
Surface Eleva	ation:	±315.0 fe	et above msl	Date Starte	d: 05/19/2014	Water Depths/Elevation	Estimated Seasonal High	
Termination	Depth:	8.0 feet b	gs	Date Comp	leted: 05/19/2014	(feet bgs / feet msl)	Groundwater Depths/Elevations	
Proposed Loc	cation:	SWM		Logged By:	MK	While Exc.: 3.5/311.5	Ā	(feet bgs / feet msl)
Excavating/T	est Method:		Excavation/	Contractor:	MC	At Completion: 7.0/308.0	$\triangle \mid E$	SHGW: 3.5/311.5
		Visual O	bservation	Equipment	Track Excavator	Hours:	T	
Sai Depth (feet)	nple Information Number	Type	Depth (feet/inches)	Horizon		PTION OF MATERIALS (Classification)		REMARKS
			0.0' (0")	TOPSOIL	Oll Toursil			
			4	TOPSOIL	8" Topsoil			
			0.7' (8")	FILL	Strong Brown Silty Sand with	Medium to Fine Roots and Gravel,	Moist	
1.5 - 2.0	S-1	BAG	"" ("" /	SILT		M; 10% Gravel, 5% Cobbles; Mode		
				LOAM		tructure; Moist to Wet; Slightly Stic ottling to Few Fine Faint Mottles (<:		
			1					
		_	, 7					
		1	4.0' (48")					Soils Saturated @ 3.5 fbgs to 8.0 fbgs
			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	LOAMY SAND		R 4/4) LOAMY SAND; 15% Gravel Subangular Blocky Structure; Wet; F		·
			5.0' (60")	SAND	Roots; Common Few Fine Fai		madie, iv	Mottling 3.5 fbgs Throughout to 8.0 fbgs
			` '-					
			1					
		7]					
			8.0' (96")					
					Soil Profile Pit SPP-4 Termina Surface	nted at a Depth of 8.0 Feet Below Gr	ound	
					Survivo			
			10.0' (120")					
	i							
		-	15.0' (180")					



Soil Profile Pit No.: SPP-5

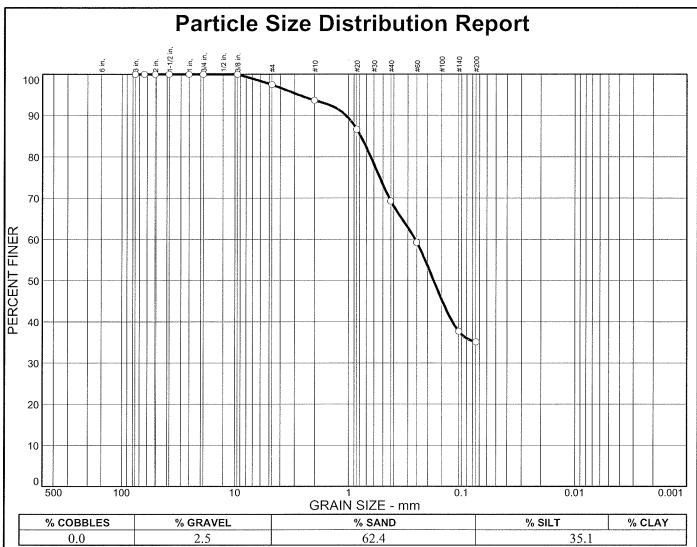
Project:	Propo	sed Buildi	ing Addition			WAI Project No.:	GJ14	112975.000
Location:	526-5	30 Anders	on Hill Road; H	arrison, We	stchester County, New 1	York Client:	Trini	ity Presbyterian Church
Surface Elev	ation:	±319.0 fe	et above msl	Date Starte	d: 05/19/2014	Water Depths/Elevation	ne	Estimated Seasonal High
Termination	Depth:	8.0 feet b	ogs	Date Comp	leted: 05/19/2014	(feet bgs / feet msl)		Groundwater Depths/Elevations
Proposed Lo	cation:	SWM A	ea/Pavement	Logged By	MK	While Exc.: 7.5/311.5	Ā	(feet bgs / feet msl)
Excavating/1	Test Method:		Excavation/	Contractor:	MC	At Completion: 8.0/311.0	∇	ESHGW: 7.5/311.5
			bservation	Equipment	Track Excavator	Hours:	¥	
Sa	mple Informatio	n	Depth	Y Yaninan	DESCRII	PTION OF MATERIALS		REMARKS
Depth (feet)	Number	Туре	(feet/inches)	Horizon		(Classification)		
(7.	0.0'(0")					
				TOPSOIL	8" Topsoil			
			0.7	LOAMY	Yellowish-Brown (10YR 5/6)	LOAMY SAND; 15% Gravel, 5%	Cobbles	s;
				SAND		r Blocky Structure; Moist; Friable;		
		D. C						
2.0 - 3.0	S-1	BAG						
			1 7					
			5.0' (60")					
			3.0 (00)					
		,						
			9.01(0(11)					Soils Saturated @ 7.5 fbgs
			7 8.0' (96")		Soil Profile Pit SPP-5 Termina	nted at a Depth of 8.0 Feet Below G	iround	
					Surface			
			_					
	:		-					
			10.0' (120")					
			-					
			_					
			15.0' (180")					
NOTES, ESHOW				11 375 31 5		DECORD OF SUPER	Dri Cr	EXPLORATION 12075 coplors word 05/27/1/



Soil Profile Pit No.: SPP-6

Project:	GJ141297	75.000							
Location:	526-5.	30 Anders	on Hill Road; H	larrison, We	stchester County, New 1	York Client:	Trinity P	resbyterian Church	
Surface Eleva	ation:	±333.0 fe	et above msl	Date Starte	d: 05/19/2014	Water Depths/Elevation	g Esti	Estimated Seasonal High	
Termination	Depth:	8.0 feet b	gs	Date Comp	leted: 05/19/2014	(feet bgs / feet msl)		Groundwater Depths/Elevations	
Proposed Loc	cation:	SWM Ar	rea/Pavement	Logged By:	MK	While Exc.: NE	Ā	feet bgs / feet msl)	
Excavating/T	est Method:		Excavation/	Contractor:	MC	At Completion: NE	☑ ESHC	SW: NE	
		Visual O	bservation	Equipment	Track Excavator	Hours:	Y		
Sar Depth (feet)	mple Information Number	Type	Depth (feet/inches)	Horizon	DESCRIF		REMARKS		
(27.5.9			0.0' (0")						
			0.5' (6")	TOPSOIL	6" Topsoil			·	
				FILL	Strong Brown Silty Sand, Trac	e Debris, Medium Roots		Debris: Metal	
			1.5' (18")	LOAMY SAND	Cobbles, 5% Boulders; Subang	R 4/6) LOAMY SAND; 15% Grave gular Blocky Structure; Moist; Friab	l, 5% le; No	Subrounded and Angular Gravel/Cobbles	
			-		Roots; No Mottling				
			5.0' (60")						
,			_						
			_						
			8.0' (96")						
			_		Soil Profile Pit SPP-6 Termina Surface on Apparent Boulder	ted at a Depth of 8.0 Feet Below G	ound		
			-						
			10.0' (120")						
			7						
			1						
			Management						
			15.0' (180")						

APPENDIX B Laboratory Test Results



ſ	SIEVE	PERCENT	SPEC.*	PASS?
	SIZE	FINER	PERCENT	(X=NO)
	3 in. 2.5 in. 2 in. 1.5 in. 1 in. 3/4 in. 3/8 in. #40 #40 #60 #140 #200	100.0 100.0 100.0 100.0 100.0 100.0 97.5 93.7 86.6 69.2 59.2 37.7 35.1		

Silty sand	Soil Description	
	Atterberg Limits	
PL= 15	LL= 18	PI= 3
D ₈₅ = 0.788 D ₃₀ = C _u =	$\begin{array}{c} \underline{\text{Coefficients}} \\ \text{D}_{60} = 0.259 \\ \text{D}_{15} = \\ \text{C}_{\text{C}} = \end{array}$	D ₅₀ = 0.177 D ₁₀ =
USCS= SM	Classification AASHT	O=
$W_n = 7.3 \%$	<u>Remarks</u>	

(no specification provided)

Sample No.: S-3 Location: Source of Sample: B-1

Elev./Depth: 4.0' - 6.0'

Date: 05/27/2014

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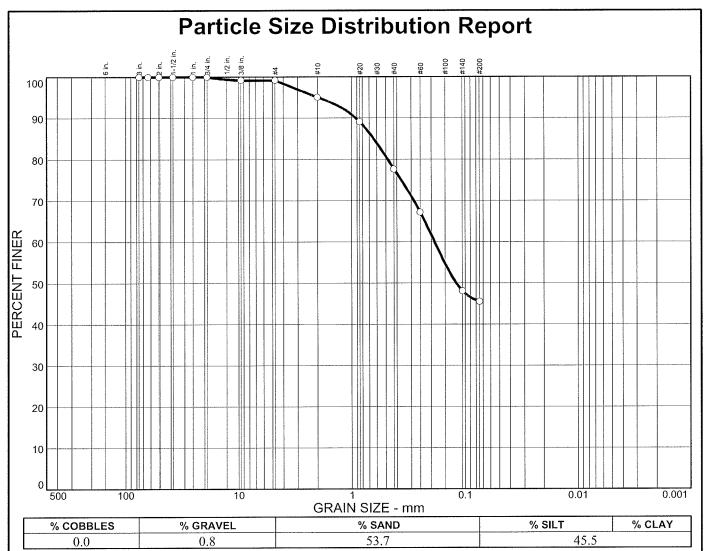
Client: Trinity Presbyterian Church

Project: Proposed Building Addition

526-530 Anderson Hill Rd, Harrison, Westchester Co, NY

Project No: GJ1412975.000

Plate



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
3 in. 2.5 in. 2 in. 1.5 in. 3/4 in. 3/8 in. #4 #10 #20 #40 #60 #140 #200	100.0 100.0 100.0 100.0 100.0 100.0 99.2 99.2 95.1 89.1 77.6 67.1 48.1 45.5		

G'T. 1	Soil Description	1
Silty, clayey sa	nd	
PL= 20	Atterberg Limits	PI= 4
D ₈₅ = 0.642 D ₃₀ = C _u =	$\begin{array}{c} \underline{\text{Coefficients}} \\ \text{D}_{60} = 0.187 \\ \text{D}_{15} = \\ \text{C}_{\text{C}} = \end{array}$	D ₅₀ = 0.120 D ₁₀ =
USCS= SC-S	M Classification AASH	ГО=
$W_n = 25.3 \%$	<u>Remarks</u>	

(no specification provided)

Sample No.: S-1/S-1

Source of Sample: B-3/B-4

Date: 05/27/2014

Location:

Elev./Depth: 0.0' - 2.0'

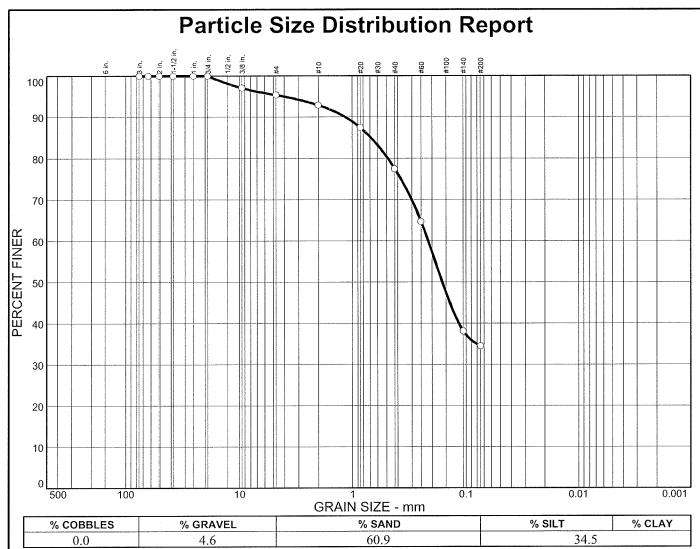
WHITESTONE ASSOCIATES, INC. Client: Trinity Presbyterian Church

Project: Proposed Building Addition

526-530 Anderson Hill Rd, Harrison, Westchester Co, NY

Project No: GJ1412975.000

Plate



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
3 in. 2.5 in. 2 in. 1.5 in. 1 in. 3/4 in. 3/8 in. #4 #10 #20 #40 #60 #140 #200	100.0 100.0 100.0 100.0 100.0 100.0 97.1 95.4 92.9 87.4 77.4 64.6 38.1 34.5		

Silty, clayey sand	Soil Description	<u>n</u>
PL= 17	Atterberg Limit	<u>s</u> PI= 4
D ₈₅ = 0.689 D ₃₀ = C _u =	$\begin{array}{c} \underline{\text{Coefficients}} \\ D_{60} = 0.217 \\ D_{15} = \\ C_{\text{C}} = \end{array}$	D ₅₀ = 0.163 D ₁₀ =
USCS= SC-SM	Classification AASH	TO=
$W_n = 14.5 \%$	Remarks	
	1. C. I. C. I. C. I. C. I. C. I. C. I. C. I. C. I. C. I. C. I. C. I. C. I. C. I. C. I. C. I. C. I. C. I. C. I.	

* (no specification provided)

Sample No.: S-3 Location: Source of Sample: B-6

Date: 05/27/2014 **Elev./Depth:** 5.0' - 7.0'

WHITESTONE ASSOCIATES, INC.

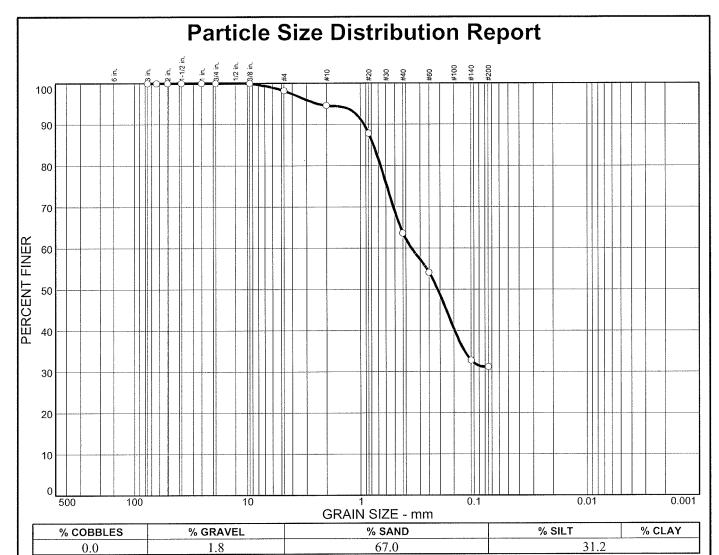
Client: Trinity Presbyterian Church

Project: Proposed Building Addition

526-530 Anderson Hill Rd, Harrison, Westchester Co, NY

Project No: GJ1412975.000

Plate



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
3 in. 2.5 in. 2 in. 1.5 in. 3/4 in. 3/8 in. #4 #10 #20 #40 #60 #140 #200	100.0 100.0 100.0 100.0 100.0 100.0 98.2 94.6 87.8 63.6 54.1 32.8 31.2		

Silty sand	Soil Description	
PL= NP	Atterberg Limits	PI= NP
D ₈₅ = 0.774 D ₃₀ = C _u =	$\begin{array}{c} \underline{\text{Coefficients}} \\ D_{60} = 0.359 \\ D_{15} = \\ C_{\text{C}} = \end{array}$	D ₅₀ = 0.211 D ₁₀ =
USCS= SM	Classification AASHT	-O=
$W_n = 11.7 \%$	<u>Remarks</u>	

* (no specification provided)

Sample No.: S-3 Location: Source of Sample: B-7

Date: 05/27/2014 **Elev./Depth:** 5.0' - 7.0'

WHITESTONE ASSOCIATES, INC.

Client: Trinity Presbyterian Church

Project: Proposed Building Addition

526-530 Anderson Hill Rd, Harrison, Westchester Co, NY

Project No: GJ1412975.000 Plate

APPENDIX C Percolation Test Results



Client:	Trinity Presbyterian Church	Test Hole No.:	SPP-1
Project:	Proposed Building Addition	Date:	May 19, 2014
Location:	Harrison, Westchester County, NY	Weather:	Clear
File No.:	GJ1412975.000	Project Manager:	KAF
Surface Elev	±326.0	Test Depth/El	evation: 1.5/324.5

Reading No.	Wate Start	r Level Finish	Water Level Fall (Inches)	Time Interval (Minutes)	Rate of Flow (Minutes/Inch)
1	24.0	23.5	0.5	60	120
2	24.0	23.5	0.5	60	120
3	24.0	23.5	0.5	60	120
4	24.0	23.5	0.5	60	120
			·		



Client:	Trinity Presbyterian Church	Test Hole No.:	SPP-2
Project:	Proposed Building Addition	Date:	May 20, 2014
Location:	Harrison, Westchester County, NY	Weather:	Clear
File No.:	GJ1412975.000	Project Manager:	KAF
Surface Eleva	±318.0	Test Depth/El	evation: 0.7/317.3

				<u> </u>	
Reading No.	Water Start	r Level Finish	Water Level Fall (Inches)	Time Interval (Minutes)	Rate of Flow (Minutes/Inch)
1	24.0	24.0	0.0	360	



Client:	Trinity Presbyterian Church	Test Hole No.:	SPP-3
Project:	Proposed Building Addition	Date:	May 19, 2014
Location:	Harrison, Westchester County, NY	Weather:	Clear
File No.:	GJ1412975.000	Project Manager:	KAF
Surface Elev	vation: ±322.0	Test Depth/El	levation: 4.0/318.0

				rest Depth, El	4.0/510.0
Reading No.	Wate Start	r Level Finish	Water Level Fall (Inches)	Time Interval (Minutes)	Rate of Flow (Minutes/Inch)
1	24.0	14.0	10.0	60	6.0
2	24.0	15.5	8.5	60	7.1
3	24.0	15.5	8.5	60	7.1
4	24.0	15.5	8.5	60	7.1



Client:	Trinity Presbyterian Church	Test Hole No.:	SPP-4
Project:	Proposed Building Addition	Date:	May 19, 2014
Location:	Harrison, Westchester County, NY	Weather:	Clear
File No.:	GJ1412975.000	Project Manager:	KAF
Surface Elev	ration: ±315.0	Test Depth/El	levation: 1.5/313.5

Water Level		r Level	Water Level	Time Interval	Rate of Flow
Reading No.	Start	Finish	Fall (Inches)	(Minutes)	(Minutes/Inch)
1	24.0	24.0	0.0	120	
-	-				
			-		

APPENDIX D
Supplemental Information
(USCS, Terms & Symbols)



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UNIFIED SOIL CLASSIFICATION SYSTEM

SOIL CLASSIFICATION CHART

	MAJOR DIVISIONS		LETTER SYMBOL	TYPICAL DESCRIPTIONS
	GRAVEL AND	CLEAN GRAVELS	GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
	GRAVELLY SOILS	(LITTLE OR NO FINES)	GP	POORLY-GRADED GRAVELS, GRAVEL- SAND MIXTURES, LITTLE OR NO FINES
COARSE GRAINED SOILS	MORE THAN 50% OF COARSE	GRAVELS WITH FINES	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES
	FRACTION RETAINED ON NO. 4 SIEVE	(APPRECIABLE AMOUNT OF FINES)	GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
	SAND AND SANDY	CLEAN SAND (LITTLE OR NO	sw	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
	SOILS	FINES)	SP	POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
MORE THAN 50% OF MATERIAL IS	MORE THAN 50% OF COARSE	SANDS WITH FINES	SM	SILTY SANDS, SAND-SILT MIXTURES
LARGER THAN NO. 200 SIEVE SIZE	FRACTION <u>PASSING</u> NO. 4 SIEVE	(APPRECIABLE AMOUNT OF FINES)	SC	CLAYEY SANDS, SAND-CLAY MIXTURES
FINE			ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
			CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
MORE THAN 50% OF MATERIAL IS			МН	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMITS GREATER THAN 50	СН	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			ОН	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
H	HIGHLY ORGANIC SOILS			PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS FOR SAMPLES WITH 5% TO 12% FINES

GRADATION*	COMPACTNESS* Sand and/or Gravel	CONSISTENCY* Clay and/or Silt
% FINER BY WEIGHT	RELATIVE DENSITY	RANGE OF SHEARING STRENGTH IN POUNDS PER SQUARE FOOT
TRACE	LOOSE	VERY SOFT LESS THAN 250 SOFT

^{*} VALUES ARE FROM LABORATORY OR FIELD TEST DATA, WHERE APPLICABLE. WHEN NO TESTING WAS PERFORMED, VALUES ARE ESTIMATED.

j whitestn\geoforms\uscs.geo

Other Office Locations:

■ CHALFONT, PA 215.712.2700

STERLING, VA 703.464.5858 EVERGREEN, CO 303.670.6905



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GEOTECHNICAL TERMS AND SYMBOLS

SAMPLE IDENTIFICATION

The Unified Soil Classification System is used to identify the soil unless otherwise noted.

SOIL PROPERTY SYMBOLS

- N: Standard Pentration Value: Blows per ft. of a 140 lb. hammer falling 30" on a 2" O.D. split-spoon.
- Qu: Unconfined compressive strength, TSF.
- Qp: Penetrometer value, unconfined compressive strength, TSF.
- Mc: Moisture content, %.
- LL: Liquid limit, %.
- PI: Plasticity index, %.
- δd: Natural dry density, PCF.
- ▼: Apparent groundwater level at time noted after completion of boring.

DRILLING AND SAMPLING SYMBOLS

- NE: Not Encountered (Groundwater was not encountered).
- SS: Split-Spoon 1 %" I.D., 2" O.D., except where noted.
- ST: Shelby Tube 3" O.D., except where noted.
- AU: Auger Sample.
- OB: Diamond Bit.
- CB: Carbide Bit
- WS: Washed Sample.

RELATIVE DENSITY AND CONSISTENCY CLASSIFICATION

<u>Term (Non-Cohesive Soils)</u> <u>Standard Penetration Resistance</u>

Very Loose		0-4
Loose		4-10
Medium Dense	98	10-30
Dense		30-50
Very Dense		Over 50

Term (Cohesive Soils) Qu (TSF)

Very Soft	0 - 0.25
Soft	0.25 - 0.50
Firm (Medium)	0.50 - 1.00
Stiff	1.00 - 2.00
Very Stiff	2.00 - 4.00
Hard	4.00+

PARTICLE SIZE

Boulders	8 in.+	Coarse Sand	5mm-0.6mm	Silt	0.074mm-0.005mm
Cobbles	8 in3 in.	Medium Sand	0.6mm-0.2mm	Clay	-0.005mm
Gravel	3 in5mm	Fine Sand	0.2mm=0.074mm		

L:\Geotechnical Forms and References\TRMSSYM.wpd

Other Office Locations:

■ CHALFONT, PA 215.712.2700

■ STERLING, VA 703,464.5858

EVERGREEN, CO 303.670.6905

Anderson Hill Road Site

Phase 1A Literature Review and Sensitivity Analysis & Phase 1B Archaeological Field Reconnaissance Survey



526-530 Anderson Hill Road Town of Harrison. Westchester County, New York

Prepared for:

Divney Tung Schwalbe 1 North Broadway White Plains, NY 10601

By:

CITY/SCAPE: Cultural Resource Consultants 166 Hillair Circle White Plains NY 10605

> June 2014 Revised July 2014

ANDERSON HILL ROAD SITE

526-528 Anderson Hill Road Town of Harrison. Westchester County, New York

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APPENDICES:

Appendix A: Photographs

Appendix B: Soil Description and Map Appendix C: Shovel Test Records

Management Summary

SHPO Project Review Number (if available):

Involved State and Federal Agencies: NYSDEP

Phase of Survey: Phase 1A Literature Review & Sensitivity Analysis & Phase 1B Archaeological Field

Reconnaissance Survey

Location Information:

Location: Anderson Hill Road

Minor Civil Division: Town of Harrison

County: Westchester

Survey Area (Metric & English)

Length:

Width:

Depth (when appropriate):

Number of Acres Surveyed: 6.6 acres (2.68 hectares)

Number of Square Meters & Feet Excavated (Phase II, Phase III only): N/A

Percentage of the Site Excavated (Phase II, Phase III only):

USGS 7.5 Minute Quadrangle Map: Glenville

Archaeological Survey Overview

Number & Interval of Shovel Tests: 63 @ 50' & 100' interval

Number & Size of Units: N/A Width of Plowed Strips: N/A

Surface Survey Transect Interval: N/A

Results of Archaeological Survey

Number & name of prehistoric sites identified: 0

Number & name of historic sites identified: 0

Number & name of sites recommended for Phase II/Avoidance: N/A

Results of Architectural Survey

Number of buildings/structures/cemeteries within project area: 0

Number of buildings/structures/cemeteries adjacent to project area:

Number of previously determined NR listed or eligible buildings/structures/cemeteries/districts:

Number of identified eligible buildings/structures/cemeteries/districts: N/A

Report Author (s): Stephanie Roberg-Lopez M.A., R.P.A. Gail T. Guillet and Beth Selig M.A., R.P.A.

Date of Report: June 2014

harrison1a/1b CITY/SCAPE: Cultural Resource Consultants

MAP& FIGURE LIST

<u>Maps</u>			
Map 1:	Anderson Hill Road Site. 1989 USGS Topographical Map. Glenville Quadrangle. 7.5 Minute Series. Scale: 1" = 1100'.		
Map 2:	Locator Map. (Source: Rand McNally Street Atlas). Scale: 1"=1150'.		
Map 3:	1851 Sidney & Neff. Map of Westchester County, New York. Scale: 1"=1375"		
Map 4:	1858 F. C. Merry. Map of Westchester County, New York. Scale: 1"= 1375'.		
Map 5:	1868 Frederick W. Beers. <i>Map of the Town of Yorktown, Westchester County, New York.</i> Scale: 1"= 1375'.		
Map 6:	1881 George W. and Walter S. Bromley. <i>Atlas of Westchester County, New York</i> . Scale: 1"= 1830'.		
Map 7:	1893 Joseph R. Bien. Atlas of Westchester County, New York Scale: 1"= 1830'.		
Map 8:	1910 G. W. and W. S. Bromley. <i>Part of the Towns of Harrison & Rye.</i> Scale: 1" = 1375'.		
Map 9:	1951 USGS Topographical Map. Glenville Quadrangle. 7.5 Minute Series. Scale: 1" =1375'		

Figures

Fig 1:	2010 Aerial Photograph of Project A	Area. (Source: Google Earth). Scale: 1"= 440'.
--------	-------------------------------------	--

Soil Map for the Anderson Hill Road site (Source: Natural Resources Conservation Fig 2:

Service Web Soil Survey). Scale on Map

- Fig. 3: Anderson Hill Road Site. Field Reconnaissance Map. Scale: 1"=100'.
- Fig. 4: Location Maps showing the location of NRE site in relation to Anderson Hill Road site.

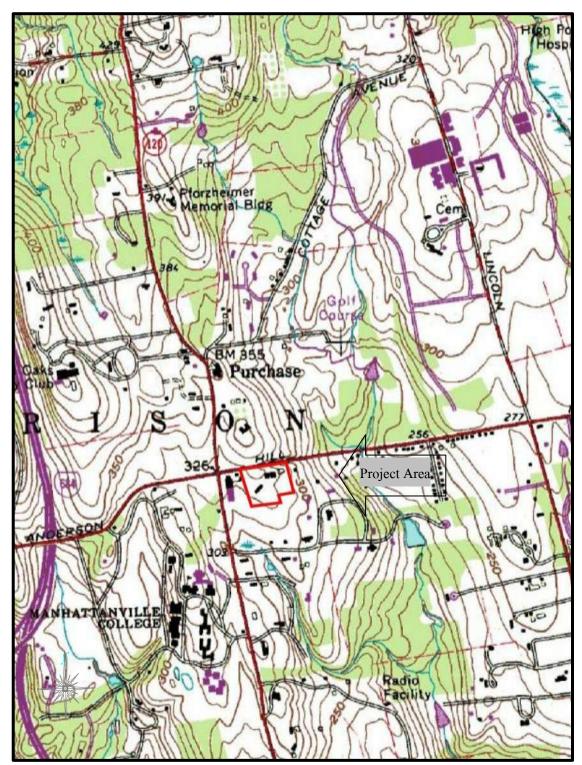
HARRISON CHURCH PROJECT

Anderson Hill Road Town of Harrison. Westchester County, New York

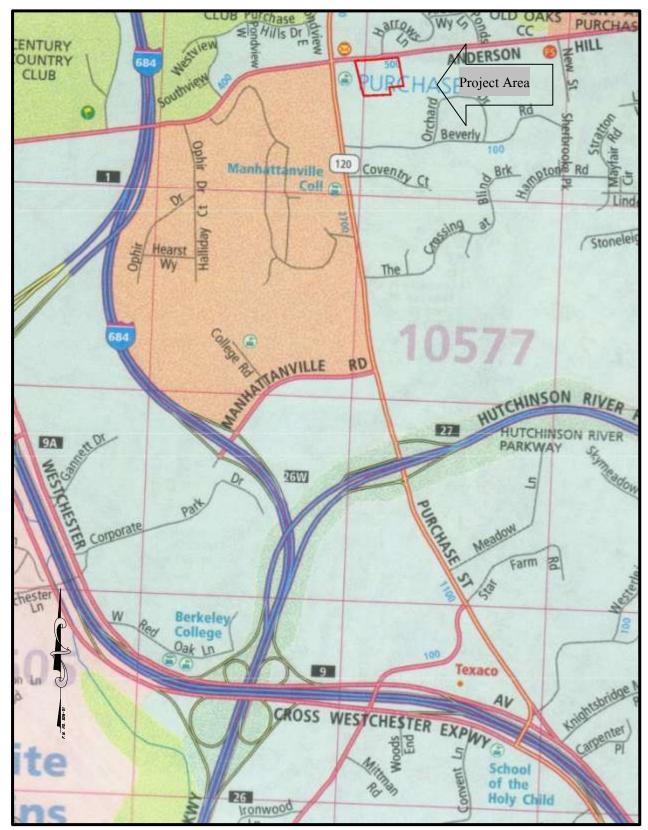
Introduction

The following report presents the results of a Phase 1A Literature Review and Sensitivity Analysis prepared for Divney Tung & Schwalbe by CITY/SCAPE: Cultural Resource Consultants. The proposed project, identified as the Harrison Church site, is located in the Town of Harrison, Westchester County, New York. The proposed project area encompasses ±6.6 acres (2.6 hectares) and consists of two lots within Block 643, Lot 7 and Lot 44. Lot 7, located in the western portion of the project area contains a Tudor style house with a swimming pool. (Photos 1-2) Lot 44 is accessed by an asphalt driveway that leads into what is currently a vacant lot. The ground surface in Lot 44 appears to be disturbed. The main entrance into the property is from Anderson Hill Road. For the purposes of the Phase 1A report, the area of potential effect (APE) is considered the entirety of the property.

All work on the Harrison Church site was performed in accordance with the guidelines established by the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) and the *Standards for Cultural Resource Investigations and the Curation of Archeological Collections* published by the New York Archeological Council (2005 & 1994). The field investigation and technical report meets the specifications of the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (*Federal Register* 48:190:44716-44742) (United States Department of the Interior 1983). All work meets the requirements of the relevant federal standards (36 CFR 61) and of the State Environmental Quality Review Act (SEQRA) 6NYCRR, part 617, of the New York State Environmental Conservation Law. In addition, the qualifications of the Principal Investigator, who supervised the project, exceeds the qualifications described in the Secretary of the Interior's Professional Qualifications Standards (*Federal Register* 48:190:44738-44739) (United States Department of the Interior 1983).



Map 1: Harrison Church Site. 1989 USGS Topographical Map. Glenville Quadrangle. 7.5 Minute Series. Scale: 1" = 1100'.



Map 2: Locator Map. (Source: Rand McNally Street Atlas). Scale: 1"=1150'.

Project Area Description

The proposed project is a 6.6 acre (2.68 hectare) site located on the south side of Anderson Hill Road, west of Prospect Street, in the Town of Harrison, Westchester County, New York. (Maps 1-2 & Fig. 1) The project area is an irregularly shaped parcel that is oriented north - south on the southern side of Anderson Hill Road. The property can be accessed from Anderson Hill Road, its northern boundary(Photo 1). The project area is bounded to the north and west by Purchase Elementary school and its recreation fields. To the east, the project area is bounded by residential property. Although the property is located in an area of primarily residential development, the broader setting features commercial businesses such as a country club and golf course, the PepsiCo World Headquarters and educational institutions.

Currently, an early 20th century structure stands on on the Harrison Church site(Photo 2). This structure, a Tudor-style dwelling, is located in the central portion of Block 643, Lot 7 in the western half of the project area. According to the information available through closed real estate listings, this structure was reportedly built in 1984. However, the cartographic research indicates that it was present on the site by 1951. This lot also features a landscaped patio and driveway on the north side of the house, and a large in-ground swimming pool on the south side of the house. East of the structure on Lot 44, there is a large vacant lot. This lot, according to aerial images from 1994 and the 1951 topographic map (Map z), once contained a residential structure. This structure is not seen on the 2004 aerial image, which shows extensive disturbance on the ground surface of the lot. This disturbance is visible on the 2010 aerial image included in this report (Fig. 1).

There are a number of houses located along Anderson Hill Road. Based on their architectural appearance, all date to the early to mid-20th century and, with the exception of the Pepsico World Headquarters (700 Anderson Hill Road), none are considered to be National Register eligible.

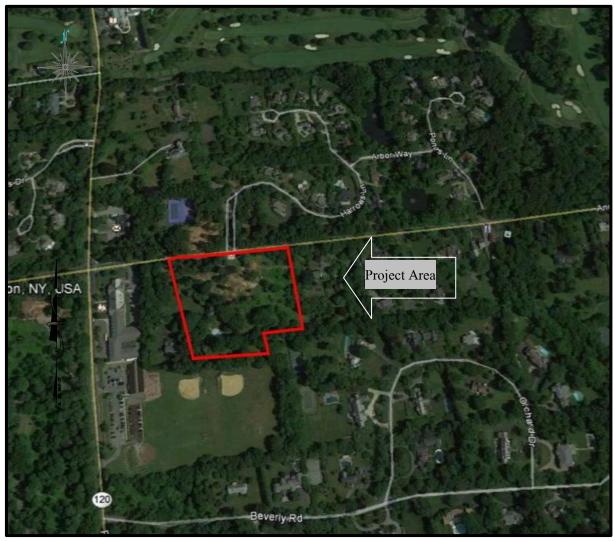


Figure 1: 2010 Aerial Photograph of Project Area. (Source: Google Earth). Scale: 1"= 440'.

Environmental Information

At the present time, the project area is primarily open lawn areas with areas of landscape overgrowth, or old field succession (Lot 44)(Photo 6-8). There are a number of mature trees on the grounds surrounding the buildings, including beech and maples.

The topography of the project area varies in elevation from approximately 330 feet (145.45 m) above mean sea level (AMSL) in the northeastern corner of the project area along Anderson Hill Road, and falls to 300 feet (134.69 m) AMSL in the southeastern eastern portion of the site. The site slopes gently from northwest to the southeast, but, in the area where the buildings are located, the overall impression is of a level landscape.

The site is geologically at the interface between the Manhattan Prong, extending from just south of the City of Peekskill to New York City and north and east into Fairfield County, and the Hudson Highlands, which is part of the New England Upland (Schuberth, 1968). The site is itself associated with the Taconic Orogeny, in which

material from the east was thrust up over the local bedrock. The basic rock groups found in the area are granite and schist. (Fisher et al: 1970). A few quartzite cobbles were observed on the surface during the walkover of the site, but these appear to be glacial in nature, rather than derived from bedrock outcrops.

Soils on the project area are an important indicator of archaeological potential, with well drained and more level soils having a higher potential to contain prehistoric cultural resources than those that are steep or wet. The soils on the project area belong to the Paxton fine sandy loam complex (PnB & PnC), which is described as gently sloping (2 to 15% slopes), very deep and well drained. (See Appendix B: Soil Description and Soil Map)

In terms of hydrology, the site drains into a small unnamed waterway located east of the project area. This water course terminates to the south, at the Hutchinson River Parkway. There are a series of ponds located on residential and commercial properties near the site that contribute to the overall drainage of the area. The project area is located less than five miles northwest of Long Island sound.

The Harrison Church property lies within the Northern Hardwood Forest Zone. In the Northern Hardwood Forest Zone, sugar maple, birch, beech and hemlock are the predominant species of trees (Küchler 1964). As noted above, there are mature trees on the property, including beech and maple.

Potential for the Site to Contain Prehistoric or Historic Cultural Resources

As part of the initial research for the Phase 1A literature review, CITY/SCAPE examined the archaeological site maps housed at Peebles Island, Waterford, New York. These files indicate that there are no sites documented within the boundaries of the project area. There are, however, two sites located within a one-mile radius of the project area. These two sites, Purchase II and Purchase V (A11905.0011, A11905.0011) are located within the SUNY Purchase campus, which is located to the north of the project area. These sites were identified as part of Archeological Investigations at the Purchase Corporate Estates Property (Pal 1992). This survey identified prehistoric lithic debitage and historic debris associated with agricultural practices.

In addition to these sites, the environmental model employed by the New York State Museum and OPRHP suggests that undisturbed portions of the project area must be considered to have a moderate potential to contain prehistoric sites. Among the factors contributing to this assessment are:

- The project area contains well drained and level areas that could have provided camp sites or special use camps for prehistoric peoples.
- The project area is located near water sources that could have provided floral and faunal resources that would have been a magnet for prehistoric peoples.

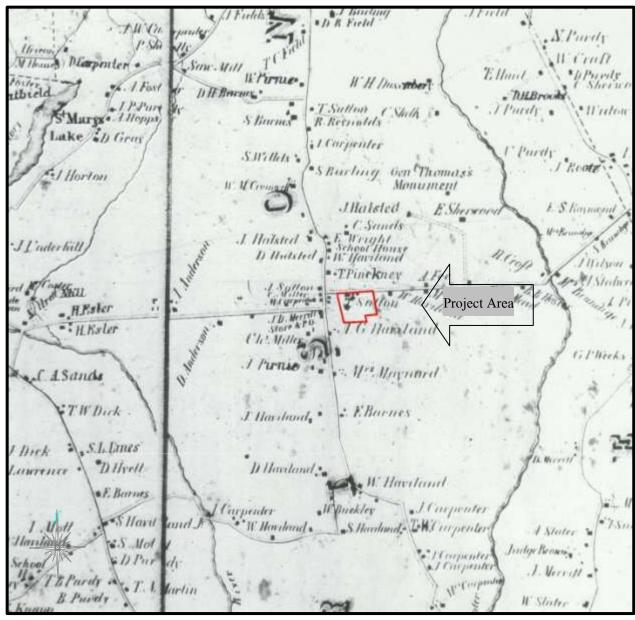
With respect to the potential for historic cultural resources, map research indicates that during the 19th century there were several map documented structures located on the property. These structures have been removed from the property but it is possible that subsurface evidence of these buildings remains within the project area. It is possible that shaft features or sheet middens (shallow dumps) associated with the dwellings may be present, and that their investigation could inform us concerning the lifeways of families living in the area. The historic potential of the site is assessed as moderate.

History of the Site

The material presented below is not intended to be an exhaustive examination of the history of the site, but rather an exercise in locating and identifying structures either on or adjacent to the project area that may be of historic significance. For this purpose, a group of historic maps available at the State Museum in Albany, the New York Public Library digital collection, and the David Rumsey Cartographic online collection have provided the basis for the following discussion.

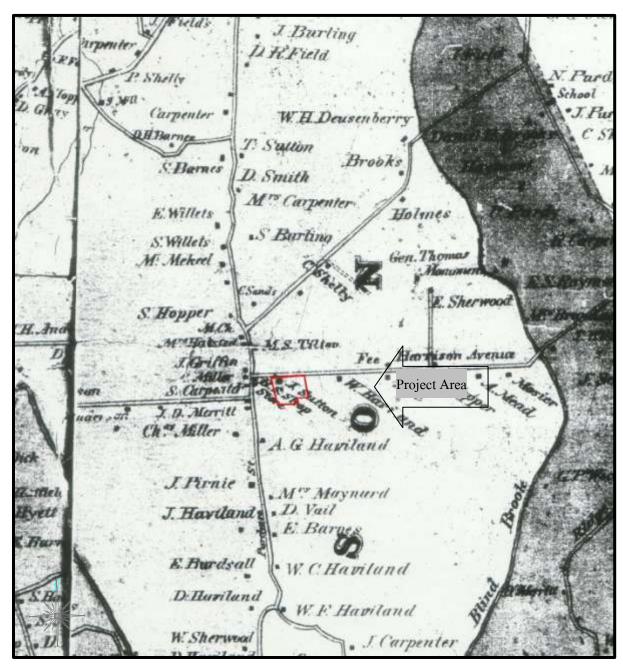
The land that is now the town of Harrison was formed from a track of land granted to John Harrison by the English throne in 1696. Although the tract was held by others in addition to Harrison, it became known as Harrison's Purchase or "the Purchase". Harrison later sold the land, and the area was first settled about 1724. (NRNF 1999:8) The Town and village of Harrison was part of the Town of Rye until 1788, and encompassed 10, 000 acres. The town remained a modest rural settlement until the opening of a train station for the New York, New Haven, and Hartford Railroad in 1870. This brought affluent New York City business men and their families to the area, since the commute to the city was reduced to less than one hour. (NRNF 1986:4)

Although earlier maps exist, they do not, in most cases, identify features other than major highways or important structures, such as churches, inns or industrial buildings. The first map examined for this report was the Sidney & Neff *Map of Westchester County, New York* (Map 3). This map indicates that the Harrison Avenue and Purchase Street intersections were not aligned as they are in present day. This map indicates that J. Sutton owned several buildings within the project area. To the west of the project area, are several buildings that are not identified. To the east of the project area, W. Haviland owns a dwelling on the southern side of Harrison Avenue as does Mrs. Russell. On the northern side of the road A. Fee owns a dwelling, and there appears to be a gatehouse for the J. Halstead property. On the west side of Purchase Street adjacent to the intersection of Harrison Avenue are a store and post office, and a structure owned by H. Merrill. To the north of Harrison Avenue there is a carpenter shop and structures owned by Sutton and Miller. Further north there are dwellings owned by Hallstead's, Haviland, Wright, Pinckney, and a school house.



Map 3: 1851 Sidney & Neff. Map of Westchester County, New York. Scale: 1"=1375"

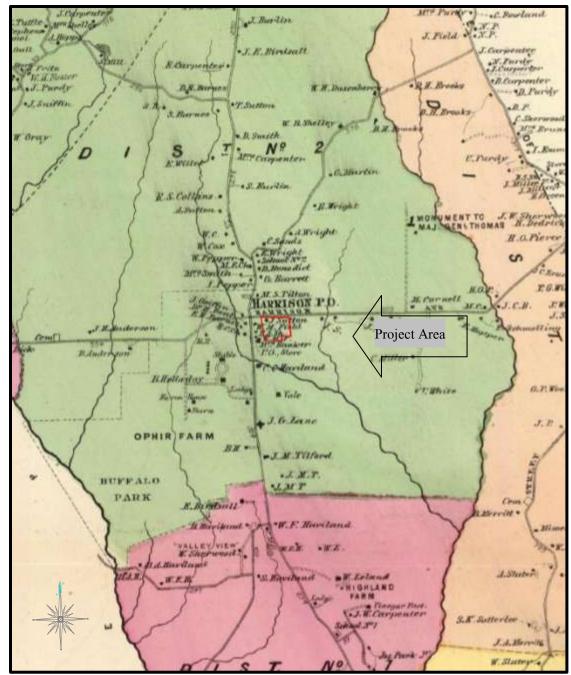
Seven years later in 1858 F.C. Merry published the *Map of Westchester County, New York* (Map 4). This map indicates that very little has changed in the vicinity of the project area. At the time this map was published, there was only a single dwelling within the project area, owned by J. Sutton. To the west of the project area the two previously unnamed structures are depicted as a blacksmith shop and a store.



Map 4: 1858 F. C. Merry Map of Westchester County, New York. Scale: 1"= 1375'.

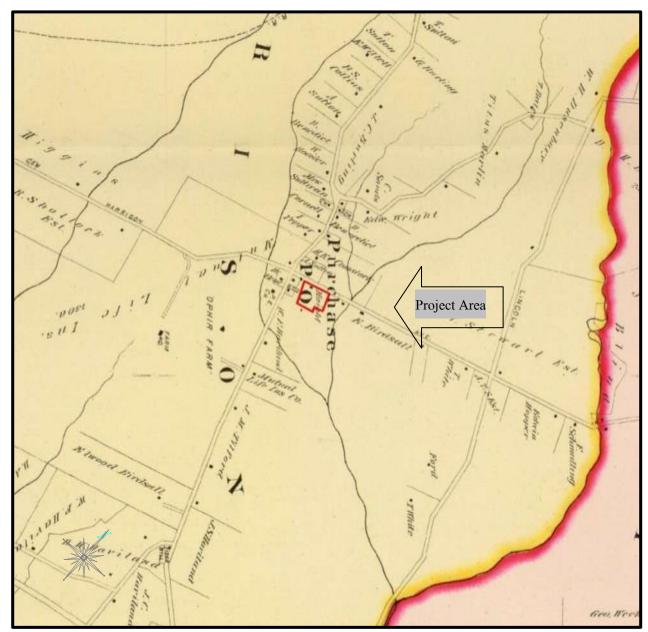
The next map consulted for this report is the 1868 Frederick Beers *Map of the Towns of Harrison and Rye, Westchester County, New York* (Map 5). This map identifies the intersection of what is now Anderson Hill Road and Purchase Street as Harrison Avenue and Purchase Street. This intersection is identified as the hamlet of Harrison. There are a number of residential dwellings located at this intersection. J. Sutton owns a dwelling within the northern portion of the project area. W. M. Field, a blacksmith shop, Mrs. Banker, WMF, as well as the post office and store are located west of the project area. The Purchase Elementary school is now present in this location. To the east of the project area is a dwelling, located on the southern side of Harrison Avenue owned by J.S. This structure is located along side a small stream that connects to a larger waterway south of the project area. There are no structures located on the north side of Harrison Avenue north of the project area. Some distance west of the

project area, along Purchase Street, is "Ophir Farm" owned by B. Holladay. This property is depicted as a large estate, with stables, a lodge, barns, and a farm house as well as the estate house. North along Purchase Street are a Roman Catholic Church, residential structures, a Methodist/Episcopal church and a school.



Map 5: 1868 Frederick W. Beers *Map of the Towns of Harrison and Rye, Westchester County, New York.* Scale: 1"= 1375".

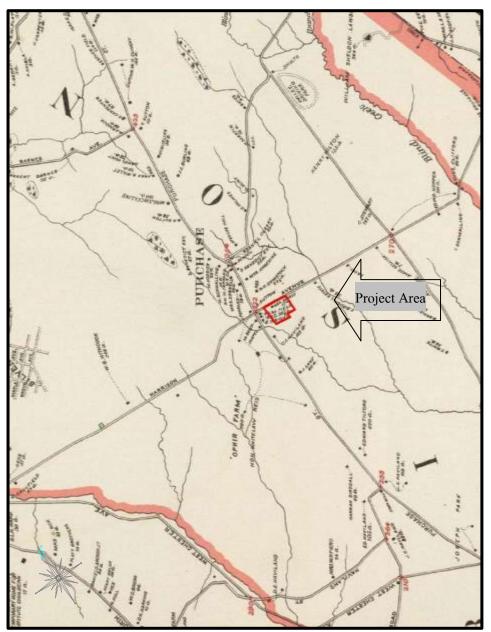
In 1881, George W. and Walter S. Bromley published the *Atlas of Westchester County, New York*. (Map 6) On this map, the intersection of Harrison Avenue and Purchase Street is identified as "Purchase." The Purchase post office is located north of Harrison Avenue on the east side of Purchase Street. The Elementary school is located to the west of the project area. The map indicates that the Haight family owns the dwelling within the project area. There is a small outbuilding shown on this map outside the southern boundary of the project area. To the east, B. Birdsall owns the dwellings alongside the stream. The Mutual Life Insurance Company now owns the Ophir Farm estate as well as several smaller properties in the area.



Map 6: 1881 George W. and Walter S. Bromley Atlas of Westchester County, New York. Scale: 1" = 1830'

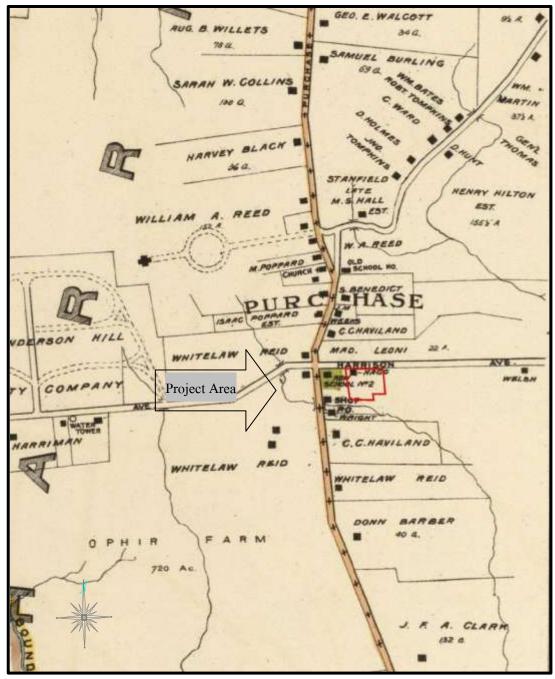
In 1893 Joseph R. Bien's published his *Atlas of Westchester County, New York*, reported to have been surveyed in 1892. This map indicates that the project area is owned by George Morse, who owned 17 acres of land.

To the west of the project area is a dwelling owned by W.M. Field, who also owns the black smith shop and 38 ½ acres of land. E. Wright owns a structure to the south of the blacksmith shop. The Ophir Farm estate, west of the project area, is depicted as encompassing 700 acres, and seven structures are owned by Honorable Whitelaw Reid. To the east of the project area, the Birdsall estate, which encompasses 25 acres, is located adjacent to the small stream. As with previous maps, there are no structures located on the north side of Harrison Avenue. This hamlet is still identified as Purchase, although there is no post office depicted.



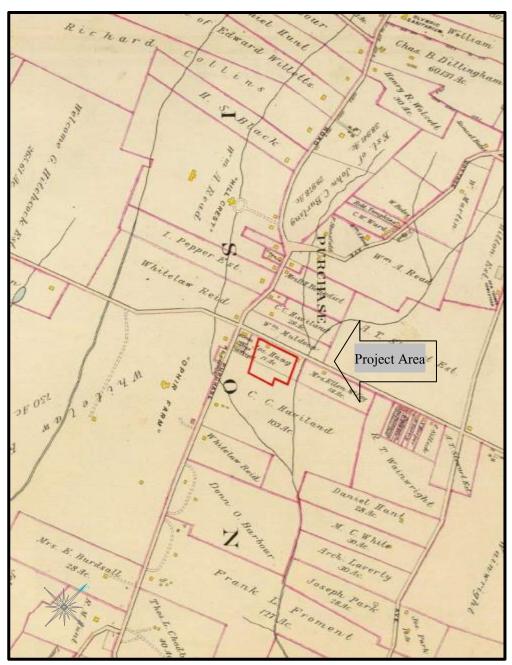
Map 7: 1893 Joseph R. Bien's Atlas of Westchester County, New York Scale: 1" =1830'.

In 1908 Hyde E. Belcher published *Atlas Rural Country District North of New York City (Map 7)*. This map indicates that Hagg owns the dwelling located within the project area. To the west of the project area, School No. 2 has been constructed. The blacksmith shop and the post office appear to be owned by Wright. Whitelaw Reid is still listed as owning the Ophir Farm estate to the west of the project area. To the east of the project area, Welsh owns a structure in the location of the former Birdsall estate. The small stream is not depicted on this map. The land on the northern side of Harrison Avenue is now owned by Madam Leoni (22 acres) but no structures are depicted.



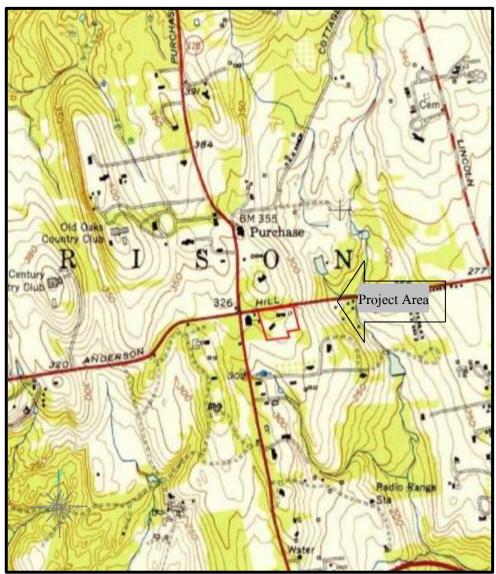
Map 7: 1908 Hyde E Belcher published *Atlas Rural Country District North of New York City*. Scale: 1" = 1375'.

In 1910, G. W. and W. S. Bromley produced *Part of the Towns of Harrison & Rye.* (Map 8) The project area is depicted as being owned by Joseph Hagg, who owns a structure in the northwestern portion of the site, and just outside the northeastern corner of the project area. To the west of the project area are the school, the post office and a dwelling owned by E. Wright. The Ophir Farm is still owned by Whitelaw Reid. To the east of the project area, the Welsh structure is owned by Mrs. Ellen McCoy. The lands to the south of the project area are owned by C. C. Havilland. To the north of the project area, A.T. Stewart and William Muldoon own land, but no structures are depicted. This map indicates that the area of Purchase has grown significantly, with larger properties subdivided into smaller residential holdings.



Map 8: 1910 G. W. and W. S. Bromley Part of the Towns of Harrison & Rye. Scale: 1" = 1375'.

Two historic topographical maps are included in this discussion. The first dates from 1951 and is based on surveys completed in 1949. (Maps 9 & 1) This map indicates that Harrison Avenue is now called Anderson Hill Road. There are two structures depicted within the project area. Their locations suggest that the structure located in the southwestern portion of the site is the residence at 526 Anderson Hill Road that is currently standing, and that the second structure located in the northeastern portion of the project area is the building that was demolished at 528 Anderson Hill Road. The elementary school is depicted west of the site. There are a number of structures located east of the project area long Anderson Hill Road. To the south are buildings located along what is currently Beverly Road. The 1989 topographical map depicts no change within the project area. The school appears to be in the process of expanding. The overall area has continued to be subdivided with a number of new roads and residential developments constructed. On this map, Manhattanville College is now located on the former Ophir Farm estate. To the north of the project area, a golf course has been constructed and portions of the SUNY Purchase Campus are in place.



Map 9: 1951 USGS Topographical Map. Glenville Quadrangle. 7.5 Minute Series. Scale: 1"=1375'

The completed map research indicates that the Harrison Church site was occupied as early as 1851 and possibly earlier. Sometime between 1910 and 1951, a residential structure was built on Lot 44. The Hagg (1910) structure was torn down and the existing dwelling at 526 Anderson Hill Road was constructed. After 1994, the residential structure on Lot 44 was torn down. The asphalt driveway and stone entry gates associated with this structure are still present (Photos 7-9).

National Register Listed and Eligible Sites Located in Vicinity of Project Area

In addition to the archaeological site files, the OPRHP files were reviewed to identify structures on or in the vicinity of the project area that have been listed on the National Register of Historic Places or identified as National Register eligible. There are 10 structures located within a one mile radius of the project area that are considered National Register eligible. None of these buildings are located adjacent to or within view of, the proposed project area.

There is one National Register Listed property located within a one mile radius of the project area. Reid Hall, formerly the manor house of the Ophir Farm estate and now Manhattanville College, was listed on the National Register of Historic Places in 1969. The residence, now the administration building for the college, was built in 1892. Ophir Farms was purchased in 1887 by Whitelaw Reed from Ben Holladay, a contractor and merchant in the American west. The original house burned the following year and Reid commissioned Stanford White to build what is now the main block of the present structure. Completed in 1892 Ophir or Reid hall was built in the style of a renaissance Revival castle. Reid also hired Frederick Law Olmstead to landscape the 1714 acre estate(NRNF 1969).

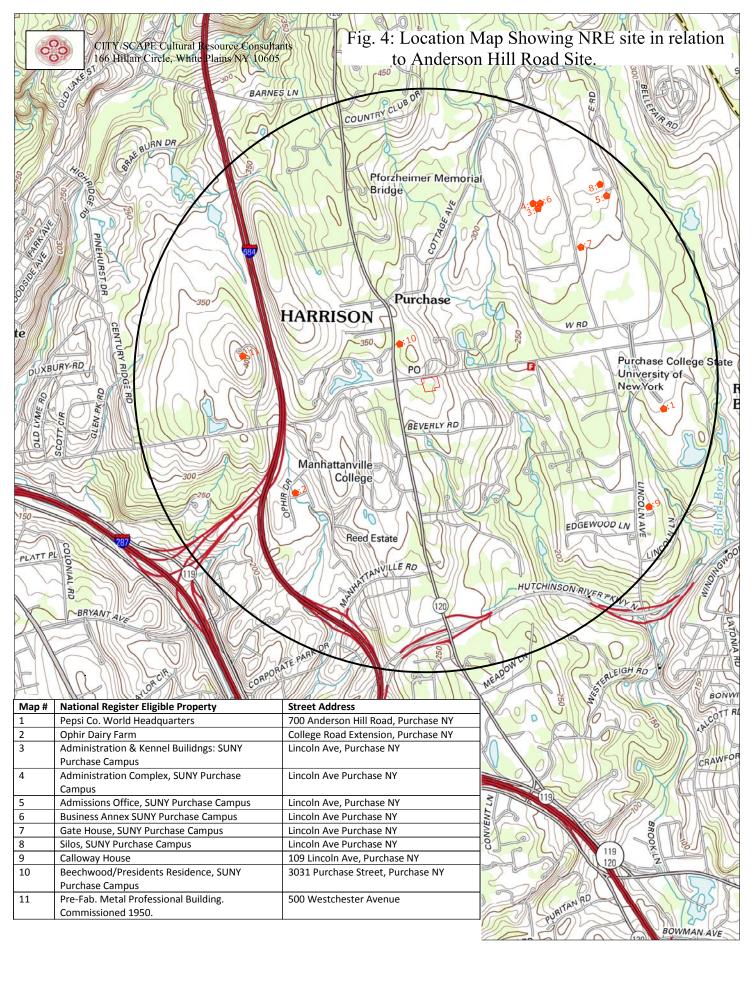
Additional Research Undertaken

As part of the 1A investigation, surveys completed for sites in the general area were consulted and are referenced fully in the bibliography. Among these surveys is a report prepared by the Louis Berger company that investigated the entire SUNY Purchase site at the level of a phase 1A Literature Review, and further investigated the location of the new residence hall at the level of a Phase 1B (Berger 2004). This survey did not identify any cultural resources.

To the north and west of the SUNY Purchase campus, nearly a full mile north of the project area, Public Archeology Laboratory investigated the Purchase Corporate Estate Property. The site examination identified the location of Purchase Site I-V, where materials consistent with a prehistoric temporary campsite were recovered. Only these two sites, Purchase II and Purchase V, were located within one mile of the project area (PAL 1991, PAL:1992).

To the west of the project area, Eugene Boesch completed a Phase 1 Archaeological Investigation of the Old Oaks Country Club in 2001. The study investigated a 15,000 square foot parcel. The field investigation did not identify any cultural resources (Boesch: 2001).

Two more surveys were conducted, both located approximately three quarters of a mile south of the project area and both investigating proposed upgrades and renovations to existing roadways. In 1979 the New York State



Museum investigated Mahattanville Road. No cultural resources were identified by this survey. (NYSM 1979) In 1993 the New York State Museum investigated a portion of the Hutchinson River Parkway in the towns of Harrison and Rye. No significant cultural resources were identified (NYSM 1993).

Sensitivity Assessment and Site Prediction

Professional surveys and excavations in the Town of Harrison, New York indicate the presence of professionally excavated prehistoric sites in the vicinity of the project area. One of these sites is located less than one mile to north of the project area has been interpreted as the location of a prehistoric camp site. (PAL 1992)

Much of the Harrison Church site has been disturbed by construction and demolition in the 19th and early 20th centuries; however, in those areas that have not been disturbed, it is not possible to rule out the possible presence of a prehistoric site or sites. The soils on the site are generally level and well drained, and could have been the location for small camp sites or special use camps focused on the nearby stream resources. Given that much of the site has been developed, the overall potential of the site to contain prehistoric resources is considered to be moderate.

The presence of Map documented structures within the project area by 1851 suggests the possibility that shaft features or sheet middens (shallow dumps) may be present within the project area. The houses seen on the earlier maps are no longer standing, but subsurface testing may reveal privies, cisterns or wells. It is also possible that sheet middens may be associated with one or another of the several documented buildings. Overall, the potential for the site to contain historic cultural resources is considered to be moderate.

Conclusions and Recommendations

With respect to the potential for historic cultural resources, map research indicates that by 1851 there was a residential structure within the project area and it is possible that shaft features and sheet middens associated with this, and other early buildings may remain within the Harrison Church site. It is recommended that the area in which the earlier buildings were located be tested to rule out or rule in the presence of historic cultural resources.

Based on the presence of prehistoric sites located in the vicinity of the Harrison Church site, it is possible that prehistoric sites may be located within the undisturbed portions of the project area. It is, therefore, recommended that a Phase 1B Archaeological Field Reconnaissance Survey be conducted in the undisturbed areas within the APE to rule out the presence of prehistoric and/or historic cultural resources.

PHASE 1B FIELD RECONNAISSANCE SURVEY

Phase 1B Introduction

On June 9, 2014, CITY/SCAPE: Cultural Resource Consultants completed a field reconnaissance level archaeological survey of the Anderson Hill Road Site in the Town of Harrison, Westchester County, New York. (Maps 1 & 2)

Archaeological fieldwork was directed by Stephanie Roberg-Lopez, M.A., R.P.A., Principal Investigator. Beth Selig, M.A., R.P.A., CITY/SCAPE's staff archaeologist, supervised the excavations. Ned Tassinari was the field technician. The final report was completed by Beth Selig. Site photography was completed by Gail T. Guillet and Beth Selig. The preparation of the Field Reconnaissance Map and final production of the report was completed by Beth Selig.

Phase 1A Information

The proposed project description, environmental information, and archaeological sensitivity assessment are included in the Phase 1A report that is bound with this report.

Methodology

Results of the Phase 1A confirmed that the site is located in an area of prehistoric activity. In addition, the landscape closely conforms to an ecological model that indicates that the more level, undisturbed portions of the project area could be highly sensitive for prehistoric cultural materials. The testing strategy for the site was, therefore, structured around the knowledge that portions of the property possessed the potential to yield prehistoric cultural remains.

The Anderson Hill Road site also possessed a moderate probability to yield historic cultural remains, based on the presence of Map Documented Structure (MDS) identified during the Phase 1A background research. The structures shown on the historic map, as well as a more recent 20th century house have been removed. (Photos 7-8) The testing strategy, therefore, was designed to identify the location of any mid-19th century historic deposits, such as sheet middens, dumps or a privy, should they exist on the property. Areas selected for subsurface testing were identified during a comprehensive walkover of the property, which served to evaluate the site, assess loci of disturbance, rule out slope and wetland areas, had they existed on the site, assess available raw material and habitation resources, and determine former land usage.

The areas selected for shovel testing were subjected to tests at intervals of 50' (15m) along transects conforming to the land surface. Determinations concerning the sensitivity of the various areas was based on environmental factors, topography, and known activity patterns of the prehistoric population. The locations of the tests and disturbed areas were recorded on a large-scale map that shows surveyed borders and the locations of the various structures identified on the site. (See Field Reconnaissance Map)

Field Methodology

Field Methodology employed at the Anderson Hill Road site consisted of several stages of investigation. These included:

- 1. A walkover and visual inspection of the site to assess areas of potential sensitivity for prehistoric cultural remains.
- 2. The excavation of a control shovel test to establish the stratigraphy of the site and to identify the depth and composition of the sterile glacially deposited sub soils.
- 3. Systematic visual inspection of the land surface to rule out the presence of rock faces and overhangs.
- 4. Shovel testing in the areas identified as having a potential sensitivity for prehistoric remains.
- 5. Photographic documentation of the overall site.

The methodology for shovel testing in the sensitive areas involved excavating 40 cm (16") diameter shovel tests at 50' (15m) intervals. Soils were passed through a ¼ inch steel mesh screen, and the material remaining in the screens was carefully examined for historic and prehistoric artifacts. The stratigraphy of each test was recorded, including the depth and the soil description of each layer. (See Appendix C) The shovel tests yielded some modern material, but no significant cultural material was recovered, but if it had would have been bagged, labeled, and returned to the laboratory for processing.

Field Results

Once a testing strategy had been established and areas unsuitable for testing (asphalt parking area and location of buried infrastructure) were eliminated from the survey, potentially sensitive areas were systematically shovel tested. The areas subjected to shovel testing represent the flat and well drained areas within the project area.

Testing commenced in the north central portion of the Anderson Hill Road site, adjacent to the former driveway of 530 Anderson Hill Road. (Photo 12) This portion of the project area is identified on the existing conditions map as Block 643, Lot 44. Transect (TR) 1 through TR 7, each containing seven (7) shovel tests, comprehensively tested this area. Transect 1 was laid out along the northern boundary of project area, with TR 2 through TR 7 progressing to the south, ending at the southern boundary of the project area. The shovel tests on each transect ran west to east terminated at the eastern property boundary, which is defined by a chain link fence. (Photo 22) Transect 1 and TR 2 identified significant previously disturbed soils, consisting primarily of fill and soils mixed with modern debris, including flower pot fragments, window and bottle glass, nails, plastic, and Styrofoam. (Appendix C: Shovel Tests Records) Transect 2 (TR 2) identified an area of saturated soils. (Photo 9 & 15) Near the end of TR 2, a concrete feature was identified. (Photo 13) Transects 1 and 2 terminated at a large slab of concrete that was covered with vegetation. (Photo 14) Transects 3 and 4 contained clean soils, with no signs of subsurface disturbance. The field team noted that recently bulldozed trails had been cut through the thick vegetation covering the eastern portion of the project area. (Photo 24)

In the central portion of Lot 44 three is a buried sewer line. (Photo 21) The transects to the north and south (TR 4 & TR 5) of this area were spaced at a 100' (30 m) interval to avoid the sewer line. Transects 4 and 5, which, as noted above, were located to avoid the sewer line corridor contained intact soils.

Once Lot 44 had been tested, testing moved to the southern portion of the project area. Transects 6 and TR 7 encountered an area of tall reeds, marked as bamboo on the existing conditions map. The soils in this area were wet, precluding any shovel testing in this area. A total of forty-nine (49) shovel tests were completed in the eastern portion of the project area. With the exception of the modern materials identified in the disturbed soils of TR 1 and TR 2, no cultural material was recovered from this portion of the project area.

Testing than moved to the western portion of the project area, which is identified as Block 643, Lot 7 on the current conditions map. The address of this parcel is 526 Anderson Hill Road. This portion of the project area contains an early 20th century Tudor Style dwelling, with a large in-ground swimming pool at the rear of the house. The landscape around the pool is significantly higher (~3-4') than the surrounding yard. (Photos 19-20) The installation of the swimming pool represents a significant subsurface disturbance, and no testing was completed in close proximity to the pool and the adjoining patio. Transect 8 was placed at the southern boundary of the western portion of the project area. The seven (7) shovel tests excavated identified undisturbed soils. No cultural material was recovered on TR 8. (Photo 6)

The final area tested was the northern portion of Lot 7. This included the front lawn area of the existing structure. (Photo 3) Transects 9 and 10 were spaced at a 100' (30 m) interval, because the ground surface appeared inconsistently level within the context of the overall project area as though the area had been previously graded and distubed. Transect 9 terminated at the remains of an existing pond or fountain. (Photo 23) The large stone ring, which was constructed of substantial stones and cement, had pipes leading to and from the feature. No cultural material was recovered in this portion of the project area.

Summary and Conclusions

In June of 2014, CITY/SCAPE: Cultural Resource Consultants completed a walkover reconnaissance inspection of the Anderson Hill Road site in the Town of Harrison, Westchester County, New York. A thorough review of the existing body of archaeological data relevant to the project area was undertaken and conclusions drawn concerning the probability of encountering prehistoric and/or historic cultural remains on the site. Disturbed areas and wet were identified and eliminated from testing. Once this process was completed, areas possessing the potential to yield cultural remains were subjected to systematic subsurface archaeological testing.

A total of 63 shovel tests were excavated on the Anderson Hill Road site in areas considered to have the potential to yield prehistoric or historic cultural material. Of the 63 shovel tests, none yielded prehistoric or historic cultural material. Shovel tests placed in the vicinity of the remains of former structure yielded cultural material dating to the mid 20th century, indicative of the former structure's demolition. Based on the results of the archaeological field survey completed on the Anderson Hill Road site, it is the conclusion of CITY/SCAPE: Cultural Resource Consultants that no further archaeological investigation of the Anderson Hill Road site is warranted.

Bibliography

Beauchamp, William

1900 *Aboriginal Occupation of New York.* In Bulletin of the New York State Museum, vol. 7, No. 32. University of the State of New York: Albany, NY.

Beers, F.W.

Atlas of New York & Vicinity. City of New Rochelle. F. W. Beers, Ad Ellis, & G.G. Soule: New York. Original scale: 1½" = 1 mile. (Map 5)

Berger, Louis INC.

2004 Phase 1B Archaeological Survey. SUNY College at Purchase. New Residence Hall. Town of Harrison, Westchester County, New York.

Bien, Joseph R.

1893 Atlas of Westchester County, New York. Julius Bien & Company: New York. (Map 7)

Boesch, J. Eugene

1992 Phase 1A Archaeological Investigation of the Proposed Sprint Spectrum OLD Oaks Club Communication Facility Study Area. Town of Harrison, Westchester County, New York.

Bolton, Robert

1881 The History of Several Towns, Manors and Patents of the County of Westchester from its First Settlement to the Present Time. (2 vols.) Charles F. Roper: New York, NY.

Bromley, G. W. & Walter S.

1881 Atlas of Westchester County, New York. Geo. W. & Walter S. Bromley: New York, N. Y. (Map 6)

1914 Atlas of Westchester County, New York. G. W. Bromley and Co.: Philadelphia, PA. (Map 8)

CITY/SCAPE: Cultural Resource Consultants

- 2014 Building Assessment. 1717 Purchase Street Property. 1717 Purchase Street. Town of Harrison. Westchester County, New York.
- 2013a Building Assessment of 71 East Post Road. White Plains Hospital. City of White Plains. Westchester County, New York.
- 2013b Phase 2 Archaeological Investigation. Brown Shingle Farmhouse Environmental Center. Pace University. Mount Pleasant. Westchester County, New York.
- 2013c Phase 1A Literature Review and Sensitivity Analysis and Phase 1B Archaeological Field Reconnaissance Survey. Pace University. Mount Pleasant. Westchester County, New York.
- 2011 Phase 1A Literature Review and Sensitivity Analysis. Continuum Living at Irvington. 30 South Broadway. Village of Irvington. Westchester County, New York.

Eisenberg, Leonard

1978 Paleo-Indian Settlement Pattern in the Hudson and Delaware River Drainages. Occasional Publications in Northeastern Anthropology, No. 4. Franklin Pierce College: Rindge, NH.

French, Alvah P.

1925 History of Westchester County, New York. Lewis Historical Publishing Co., Inc.: NY.

Funk, Robert E.

1976 Recent Contributions to Hudson Valley Prehistory. New York State Museum Memoir 22. Albany, NY.

Hagstrom Map Company, Inc.

2001 Westchester County Street Atlas & Metropolitan New York Road Atlas. [2nd Edition] Hagstrom Map Company, Inc.: Maspeth, NY. (Map 2)

Hufeland, Otto

1982 Westchester County during the American Revolution 1775-1783. Harbor Hill Books: Harrison, NY. [Reprint of 1926 Edition]

John Milner Associates (JMA)

2006 Phase 1A Cultural Resources Survey. Parcel B. Town/Village of Harrison, Westchester County, New York.

Kraft, ed., Herbert C.

1991 The Archaeology and Ethnohistory of the Lower Hudson Valley and Neighboring Regions: Essays in Honor of Lewis A. Brennan. Occasional Publications in Northeastern Archaeology. No. 11. Archaeological Services: Bethlehem, CT.

Küchler, August W.

1964 Potential Natural Vegetation of the Conterminus United States. American Geographical Society, New York.

Merry, F.C

1858 Map of Westchester County, New York. M. Dripps: New York, NY. Scale: 1" = 1375'. (Map 4)

Natural Resources Conservation Service

Web Soil Survey. http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm

National Register Nomination Form (NRNF)

- 1969 Reid Hall (Ophir Farm/Whitelaw House). Mahattanville College. Purchase Street, Harrison, Westchester County New York.
- 1986 Harrison Post Office. Westchester County, New York.
- 1999 Stony Hill Cemetery. Harrison. Westchester County, New York.

New York State Museum (NYSM)

- 1993 Cultural Resources Survey Report. PIN 8101.34.101. Hutchinson River Parkway. Towns of Harrison and Rye. Westchester County, New York.
- 19797 Cultural Resource Survey Report. PIN 188309. Manhattanville Road. Town of Harrison, Westchester County New York.

Parker, Arthur

1920 *Archaeological History of New York*. New York State Museum Bulletin. No. 237 and 238. The University of the State of New York: Albany, NY.

Public Archaeology Laboratory Inc. (PAL)

- 1992 Archeological Investigations at the Purchase Corporate Estate Property (Hickory Pine at Purchase). Harrison, New York.
- 1991 Management Memorandum Intensive Archaeological Survey. Purchase Property. Purchase New York.

Ritchie, William A.

- 1973 Aboriginal Settlement Patterns in the Northeast. Memoir 20. New York State Museum and Science Service. Albany, NY.
- 1969 The Archaeology of New York State. Natural History Press: Garden City, NY.

Ruttenber, E. M. & L. H. Clark, ed.

1872 *History of the Indian Tribes of Hudson's River*. Ira J. Friedman Div. Kennikat Press: Port Washington, NY.

Salwen, Bert

1975 "Post-Glacial Environments and Cultural Change in the Hudson River Basin" in *Man in the Northeast*: 10.

"Indians of Southern New England and Long Island: Early Period." *Handbook of North American Indians*. edited by Bruce G. Trigger. v. 15. Smithsonian Institute: Washington, DC. p. 160-176.

Scharf, ed., J. Thomas

1886 History of Westchester County, NY, including Morrisania, Kings Bridge, and West Farms which have been annexed to New York City. L. E. Preston & Co., Philadelphia, PA.

Schuberth, Christopher J.

1968 The Geology of New York City and Environs. The Natural History Press: Garden City, NY

Shaver, Peter (compiler)

1992 *The National Register of Historic Places in New York State.* Preservation League of New York State: Albany, NY.

Shonnard, Frederic and W. W. Spooner, ed.

1974 History of Westchester County, New York: From its Earliest Settlement to the Year 1900. [reprinted edition] Harbor Hill Books: Harrison, NY.

Sidney & Neff.

1851 *Map of Westchester County, New York.* Newell S. Brown, Publisher/White Plains & Phil. Plate: unknown. (Map 3)

Snow, Dean R.

1980 The Archaeology of New England. Academic Press: New York, NY.

Thompson, ed., John H.

1966 Geography of New York State. [revised edition] Syracuse University Press: Syracuse, NY.

Westchester County Department of Planning

1986 Archaeological Resources Study. Westchester County Department of Planning: White Plains, NY.

United States Department of the Interior.

National Register Bulletin # 24: Technical Information on Comprehensive Planning, Survey of Cultural Resources, and Registration in the National Register of Historic Places. Reprint. National Park Service, Interagency Resources Division. Washington, D.C.

United States Geological Survey

- 1981 USGS Topo. 7.5 Minute Series. New Rochelle Quadrangle. Scale 1:24,000. (Map 1)
- 1941 USGS Topo. 15 Minute Series. West Point Quadrangle. Scale: 1:64,000. (Map 11)
- 1892 USGS Topo. 15 Minute Series. Harlem Quadrangle. Scale: 1:64,000. (Map 10)

FIELD RECONNAISSANCE MAP



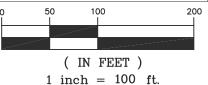


CITY/SCAPE Cultural Resource Consultants 166 Hillair Circle, White Plains NY 10605

Figure 3: Anderson Hill Road Site Field Reconnaissance Map Scale 1" = 100'

Sterile Shovel Test Location





APPENDICES

LIST OF APPENDICES

Appendix A: Photographs

Appendix B: Soil Description and Map Appendix C: Shovel Test Records

harrison1a/1b

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APPENDIX A

PHOTOGRAPHS



Photo 1: Entrance to 528 -530 Anderson Hill Road is flanked by stone gates. Property is identified on Tax Map as Block 643, Lot 44. View to southwest.



Photo 2: English Tudor-style house located at 526 Anderson Hill Road. House was built in 1984. View to south.



Photo 3: Looking across front lawn of 526 Anderson Hill Road to Purchase Elementary School. View to west.



Photo 4: Pool located at rear of 526 Anderson Hill Road. View to southwest.



Photo 5: Small outbuilding located at rear of 526 Anderson Hill Road. View to southeast.



Photo 6: Looking across rear yard area from outbuilding on 526 Anderson Hill Road. Rear yard extends along rear lot line of Lot 44, which is also part of the project area. View to east.



Photo 7: Portions of Lot 44 (Block 643) are covered with asphalt paving. An examination of historic aerial photographs indicates that a residential building was formerly located on site. View to east.



Photo 8: Looking north toward Anderson Hill Road from asphalt paved area seen in Photo 8.



Photo 9: Looking southeast from asphalt paved area. Site has mature trees and more recent growth vegetation.



Photo 10: Purchase Elementary School located at intersection of Anderson Hill Road and Purchase Street abuts western boundary of Lot 7. View to southwest.



Photo 11: Entrance to development located across Anderson Hill Road from project area. View to north.



Photo 12: On TR 1, STP 1 was placed adjacent to edge of asphalt driveway. View to north.



Photo 13: Large concrete feature located in northeastern portion of project area near TR 2. View to north.



Photo 14: Concrete slab located in eastern portion of project area. View to west.



Photo 15: Saturated soils and stand of cattail were identified in area along TR 2. View to east.



Photo 16: Shed with patio located to rear of existing house within project area. View to south.



Photo 17: Swimming pool located to south of existing house within project area. View to southwest.



Photo 18: View of lawn area in southern portion of project area. View to west.



Photo 19: Concrete block with pipe located near pool suggests presence of buried infrastructure. View to southwest.



Photo 20: Pool and large stone patio located on south side of existing residence. View to north of rear of house.



Photo 21: Buried sewer line crosses eastern portion of project area. View to east.



Photo 22: Eastern boundary of project area is bounded by chain link fence. View to east.



Photo 23: Remnants of stone pond or fountain located in northwestern portion of project area. View to east.



Photo 24: Recently bulldozed trail cuts through portions of project area. View to west.

APPENDIX B

SOIL DESCRIPTION AND MAP

Name	Soil Horizon Depth	Texture / Inclusions	Slope (Percent)	Drainage	Landform
Paxton fine sandy loam (PnB)	Surface: 0-10" (0-25 cm) Subsoil: 10-20" (25-50 cm) Substratum: 20-60" (50-162 cm)	Fine Sandy Loam Loam Gravely Sandy Loam	2 to 8%	Well Drained	Drumlinoid ridges, hills & Till Plains
Paxton fine sandy loam (PnC)	Surface: 0-10" (0-25 cm) Subsoil: 10-20" (25-50 cm) Substratum: 20-60" (50-162 cm)	Fine Sandy Loam Loam Gravely Sandy Loam	8 to 15%	Well Drained	Drumlinoid ridges, hills & Till Plains



APPENDIX C

SHOVEL TEST RECORDS

Transect	STP	Level	Depth (in)	Munsell	Soil Description	Cultural Material
TR1	1	1	0-13	10YR3/3	Dark brown silty loam with gravel	plastic, metal, asphalt
	2	1	0-10	10YR3/3	Dark brown silty loam with gravel	metal, plastic, coal
		2	10-14	10YR5/6	Dark yellowish brown silty sandy clay	NCM
	3	1	0-10	10YR3/3	Dark brown silty loam with gravel	NCM
		2	10-16	10YR5/6	Dark yellowish brown silty sandy clay	NCM
	4	1	0-8	10YR3/3	Dark brown silty loam with gravel, terminated at large rusty object	NCM
	5	1	0-10	10YR3/3	Dark brown silty loam	NCM
		2	10-14	10YR5/6	Dark yellowish brown sandy clay	NCM
	6	-	-	-	Not Excavated: Bulldozed path	
	7	1	0-10	10YR3/3	Dark brown silty loam	NCM
		2	10-12	10YR5/6	Dark yellowish brown sandy clay	NCM
TR 2	8	1	-	-	Not Excavated: Asphalt	
	9	1	-	-	Not Excavated: Saturated soils	
	10	1	-	-	Not Excavated: Saturated soils	
	11	1	0-9	10YR3/3	Dark brown silty loam with gravel	bmx elitrical wire, coal, glass
		2	9-12	10YR5/6	Dark yellowish brown silty sand	NCM
	12	1	0-12	10YR3/3	Dark brown silty loam	NCM
		2	12-13	10YR5/6	Dark yellowish brown silty sand	NCM
	13	-	-	-	Not Excavated: Concrete slab	
	14	-	-	-	Not Excavated: Concrete slab	
TR 3	15	1	0-5	10YR3/3	Dark brown silty sandy loam	NCM
		2	5-9	10YR5/6	Dark yellowish brown silty sand	NCM
	16	1	0-10	10YR3/3	Dark brown silty sandy loam	NCM
		2	10-12	10YR5/6	Dark yellowish brown silty sand	NCM

Transect	STP	Level	Depth (in)	Munsell	Soil Description	Cultural Material
	17	1	0-14	10YR3/3	Dark brown silty sandy loam	NCM
		2	14-17	10YR5/6	Dark yellowish brown silty sand	NCM
	18	1	0-12	10YR3/3	Dark brown silty sandy loam	NCM
		2	12-17	10YR5/6	Dark yellowish brown silty sand	NCM
	19	1	0-10	10YR3/3	Dark brown silty sandy loam	NCM
		2	10-12	10YR5/6	Dark yellowish brown silty sand	NCM
	20	1	0-13	10YR3/3	Dark brown silty sandy loam	NCM
		2	13-15	10YR5/6	Dark yellowish brown silty sand	NCM
	21	1	0-12	10YR3/3	Dark brown silty sandy loam	NCM
		2	12-16	10YR5/6	Dark yellowish brown silty sand	NCM
TR 4	22	1	0-8	10YR3/3	Dark brown silty sandy loam	NCM
		2	8-14	10YR5/6	Dark yellowish brown silty sand	NCM
	23	1	0-10	10YR3/3	Dark brown silty sandy loam	NCM
		2	10-14	10YR5/6	Dark yellowish brown silty sand	NCM
	24	1	0-5	10YR3/3	Dark brown silty sandy loam	NCM
		2	5-9	10YR5/6	Dark yellowish brown silty sand	NCM
	25	1	0-14	10YR3/3	Dark brown silty sandy loam	NCM
		2	14-18	10YR5/6	Dark yellowish brown silty sand	NCM
	26	1	0-12	10YR3/3	Dark brown silty sandy loam	NCM
		2	12-16	10YR5/6	Dark yellowish brown silty sand	NCM
	27	1	0-13	10YR3/3	Dark brown silty sandy loam	NCM
		2	13-17	10YR5/6	Dark yellowish brown silty sand	NCM
	28	1	0-10	10YR3/3	Dark brown silty sandy loam	NCM
		2	10-14	10YR5/6	Dark yellowish brown silty sand	NCM

Transect	STP	Level	Depth (in)	Munsell	Soil Description	Cultural Material
TR 5	29	1	0-8	10YR3/3	Dark brown silty sandy loam	NCM
		2	8-12	10YR5/6	Dark yellowish brown silty sand	NCM
	30	1	0-8	10YR3/3	Dark brown silty sandy loam	NCM
		2	8-12	10YR5/6	Dark yellowish brown silty sand	NCM
	31	1	0-8	10YR3/3	Dark brown silty sandy loam	NCM
		2	8-14	10YR5/6	Dark yellowish brown silty sand	NCM
	32	1	0-9	10YR3/3	Dark brown silty sandy loam	NCM
		2	9-14	10YR5/6	Dark yellowish brown silty sand	NCM
	33	1	0-12	10YR3/3	Dark brown silty sandy loam	NCM
		2	12-15	10YR5/6	Dark yellowish brown silty sand	NCM
	34	1	0-10	10YR3/3	Dark brown silty sandy loam	NCM
		2	10-14	10YR5/6	Dark yellowish brown silty sand	NCM
	35	1	0-12	10YR3/3	Dark brown silty sandy loam	NCM
		2	12-15	10YR5/6	Dark yellowish brown silty sand	NCM
TR 6	36	1	0-17	10YR3/3	Dark brown silty sandy loam	NCM
		2	14-17	10YR5/6	Dark yellowish brown silty sand	NCM
	37	1	0-10	10YR3/3	Dark brown silty sandy loam	NCM
		2	10-12	10YR5/6	Dark yellowish brown silty sand	NCM
	38	1	0-12	10YR3/3	Dark brown silty sandy loam, terminated at rock impasse	NCM
	39	1	0-11	10YR3/3	Dark brown silty sandy loam	NCM
		2	11-14	10YR5/6	Dark yellowish brown silty sand	NCM
	40	1	0-12	10YR3/3	Dark brown silty sandy loam, terminated at rock impasse	NCM
	41	1	0-10	10YR3/3	Dark brown silty sandy loam, terminated at pooling water	NCM
	42	2	0-8	10YR3/3	Dark brown silty sandy loam, terminated at pooling water	NCM
TR 7	43	1	0-14	10YR3/3	Dark brown silty sandy loam	NCM

Transect	STP	Level	Depth (in)	Munsell	Soil Description	Cultural Material
		2	14-17	10YR5/6	Dark yellowish brown silty sand	NCM
	44	1	0-10	10YR3/3	Dark brown silty sandy loam	NCM
		2	10-12	10YR5/6	Dark yellowish brown silty sand	NCM
	45	1	0-12	10YR3/3	Dark brown silty sandy loam	NCM
		2	12-16	10YR5/6	Dark yellowish brown silty sand	NCM
	46	1	0-11	10YR3/3	Dark brown silty sandy loam	NCM
		2	11-14	10YR5/6	Dark yellowish brown silty sand	NCM
	47	1	0-12	10YR3/3	Dark brown silty sandy loam	NCM
		2	12-14	10YR5/6	Dark yellowish brown silty sand	NCM
	48	1	0-10	10YR3/3	Dark brown silty sandy loam, terminated at pooling water	NCM
	49	2	0-8	10YR3/3	Dark brown silty sandy loam, terminated at pooling water	NCM
TR 8	50	1	0-14	10YR3/3	Dark brown silty sandy loam	NCM
		2	14-17	10YR5/6	Dark yellowish brown silty sand	NCM
	51	1	0-10	10YR3/3	Dark brown silty sandy loam	NCM
		2	10-12	10YR5/6	Dark yellowish brown silty sand	NCM
	52	1	0-12	10YR3/3	Dark brown silty sandy loam, terminated at rock impasse	NCM
	53	1	0-11	10YR3/3	Dark brown silty sandy loam	NCM
		2	11-14	10YR5/6	Dark yellowish brown silty sand	NCM
	54	1	0-12	10YR3/3	Dark brown silty sandy loam, terminated at rock impasse	NCM
	55	1	0-10	10YR3/3	Dark brown silty sandy loam, terminated at rock impasse	NCM
	56	2	0-8	10YR3/3	Dark brown silty sandy loam, terminated at rock impasse	NCM
TR 9	57	1	0-12	10YR3/3	Dark brown silty sandy loam	NCM
		2	12-14	10YR5/6	Dark yellowish brown silty sand	NCM
	58	1	0-12	10YR3/3	Dark brown silty sandy loam, terminated at rock impasse	NCM
	59	1	0-12	10YR3/3	Dark brown silty loam with gravel/ fill	NCM

Appendix C: Shovel Test Record

Anderson Hill Road Site. 526-530 Anderson Hill Road. Town of Harrison, Westchester County, New York

Transect	STP	Level	Depth (in)	Munsell	Soil Description	Cultural Material
TR 10	60	1	0-8	10YR4/4	Dark yellowish brown silty loam	NCM
		2	8-12	10YR5/8	Yellowish brown silty clay	NCM
	61	1	0-10	10YR4/4	Dark yellowish brown silty loam	NCM
		2	10-14	10YR5/8	Yellowish brown silty clay	NCM
	62	1	0-8	10YR4/4	Dark yellowish brown silty loam	NCM
		2	8-12	10YR5/8	Yellowish brown silty clay	NCM
	63	1	0-10	10YR4/4	Dark yellowish brown silty loam	NCM
		2	10-12	10YR5/8	Yellowish brown silty clay	NCM